Virginia Wildlife

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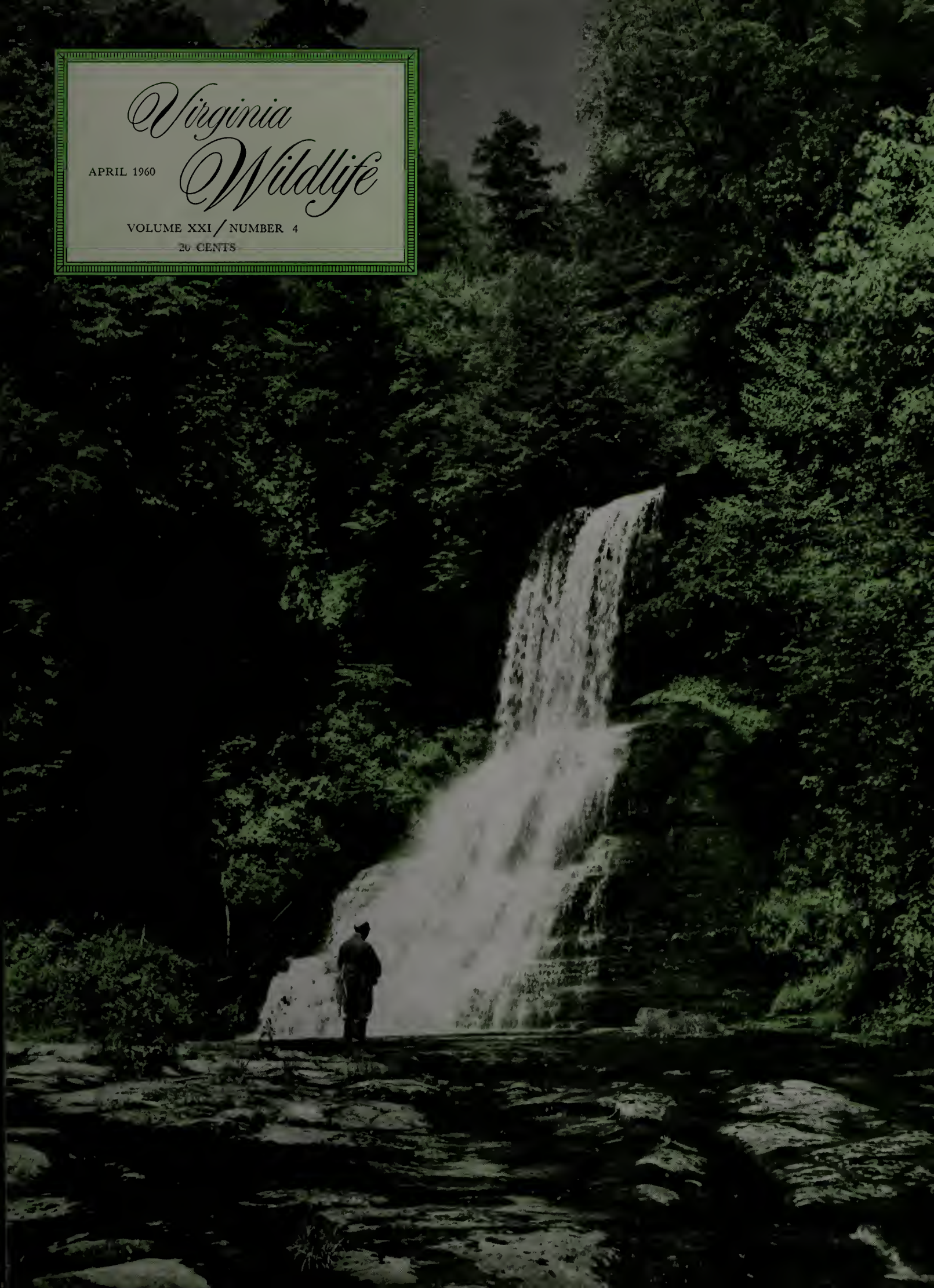

Virginia Wildlife

A Monthly Magazine Dedicated to the Conservation, Restoration, and Wise Use of Virginia's Wildlife and Related Natural Resources, and to the Betterment of Hunting, Fishing and Outdoor Recreation in Virginia

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COVER: Scenes like this one on Little Stony Creek above Mountain Lake in Giles County will be quite common in the Old Dominion soon. Trout season opens on April 16. Virginia State Chamber of Commerce Photo.

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EDITORIAL

Space Problems on Earth Are Important Too

IT has been reported that during the oncoming so-called golden sixties, we will spend in this country many, many billions of dollars on research and development in outer space. Just how much money and how much effort will be put into this program exactly, no one has cared to predict, but it is a fair bet it will be more of everything than any one single person can comprehend.

Recently we attended a series of lecture-forums on research and development where some of the great problems of astronautical space were discussed and reviewed. A few of these are worth mentioning.

One of the first major technological problems to be overcome in space travel is the proper design and character of the space vehicles themselves, including the best types of propellants to use as a ship moves away from the gravitational pull of the earth toward what, many *light*-years away (a light-year is 6,000,000,000,000 miles), may be travel in the intergalactic space region—a region many trillion miles away where all sense of time and life and measurement breaks down.

To reach even the fringes of this vast region of the unknown, say perhaps around and beyond the great Milky Way, will require space ships of an unheard-of character. They alone may cost billions. According to a remarkable astronautical chart released by the General Dynamics Corporation, a space vehicle leaving the earth for outer space would encounter the following travel zones in its path: first, the lower and upper atmospheres of the earth, with alternate zones of terrible cold and heat; then the area of terrestrial space, which is the area immediately above the earth's atmosphere. Then would follow the cislunar and translunar spaces, with distances ranging from 10^5 to 10^6 or roughly 100,000 to 1,000,000 miles. Beyond would be the interplanetary space, the region of the planets; further away the awesome interstellar space region where the stars number into trillions and only time has meaning. Finally, beyond this comes the most remote space region of all—the intergalactic space where at first only light-years count and then all vestige of mathematical calculations falls apart.

For man to travel to and from even the lower space regions nearest the earth, scientists readily warn, will take some doing. First to be licked are the vast technological problems that surround lifting a sizeable man-made object into space.

But technological problems probably can be overcome, given sufficient time and money and brain power. What worries astronauts most is not technological know-how but incomprehensible human psychological problems that man will have to overcome to live in space. Such things as weightlessness (the feeling of no weight to a body in space which causes nausea and delirium), long-period food supply, and the reproduction of new generations of humans while in space are only a few of the complex space-adjustment problems that will have to be resolved, and these are among our most difficult. Such things as food problems where human wastes may be linked to algae in a perpetual food chain and other things

(Continued on page 10)

LETTERS

Suggests Higher Non-Resident Fees

IT was my good fortune to be asked by my brother to go deer hunting in your state in the fall of 1952. We went to the Shenandoah County where it was my good luck to be introduced to several landowners who gave us permission to hunt their land. It was my luck to meet a landowner by the name of John Ward who took me "under wing" and taught me the proper methods of hunting. Due to this man especially, my respect for the landowner and his problems involving some hunters was considerably increased. He taught me that being in the woods or mountains or streams was the best way to tranquility. Each one of these—woods, mountains or streams—can, if properly used, help to solve our problems by giving us the opportunity to think them out while being "under the spell" of nature. I have not missed a year of hunting or fishing since 1952. I like to catch fish and shoot game but that certainly is not my only reason for liking the area so much. To sit in the mountains and have a doe stomp her feet at you, to surprise a buck and hear him snort or to see a bass jump, these are also things of great pleasure to me and to all hunters and fisherman.

I have read in your magazine that you are running a deficit in your program of game and fish maintenance, stocking and protection. I, for one, who have enjoyed the best in fishing and hunting for the past seven years, feel that if an increase in license fees is the answer, then do so. I would like to suggest a method to you and through your magazine to all other hunters and fisherman. Raise the nonresident license fee for general fishing to $15.00 to include trout. Raise the nonresident hunting license to $25.00 to include the big game and the national forest stamps. To make this more appealing to the chronic license fee objector, sell a combination license for $35.00 This would be an increase if bought separately of $10.25, if bought as a combination, $5.25. I cannot believe that increases such as this will present any cause for complaining by the prospective nonresident license buyer.

I hope that I am expressing the thoughts of other sportsman beside myself by taking this opportunity to express our thanks to all concerned for the grand hours and days of hunting and fishing that we have enjoyed.

Franklin E. Niess
Silver Spring, Maryland

Fishing Report

FISHING for largemouth bass in the South Fork of the Shenandoah River between Shenandoah and Luray was very good all winter (in deep holes). For example: while fishing one day in a deep hole near Shenandoah I caught one that weighed 5 pounds, one 2½ and one 2 pounds. Hooked into two monsters that straightened number 4 hooks. They sure like minnows about 2 to 2½ inches long (shiners). Also, crappie fishing is good.

Clarence Staleman
Shenandoah, Virginia

The Job That Must Be Done

Soil Conservation Service Photo

"Hunger, experienced today by two-thirds of the world's population, is but a sympton of the sick lands which have festered under man's mistreatment."

WE Americans take many things for granted!

We have the highest living standard of any people in the world. We look to the future with confidence that we will move forward through new scientific frontiers and find easier living and more push buttons at our work and in our homes.

We accept the many wonders of our technical age—the supersonic speeds, the electronic and medical discoveries, the engineering miracles—which have speeded scientific development to the extent that we have difficulty in predicting future levels of achievement. We refer to this as the "Wonder Age."

But just how far have we really come? Have we, as human beings, succeeded in fitting ourselves to the land upon which we live? Have we ever come to real grips with the problem of reconciling the differences between what man must have in order to live and what the earth can provide?

Can we look forward to a life of peaceful abundance in which people of this country and the world will share in the opportunities for satisfying their living needs?

If we consider these questions for a moment, we find that they open up many perplexing problems which bear directly upon Man's survival. They bring the realization that the hunger, experienced today by two-thirds of the world's population, is but a symptom of the sick lands which have festered under man's mistreatment. They force us to face up to the reality of the poverty that has caused most of the conflicts between peoples and nations.

Adapted from speech material for 1957 National Wildlife Week.

The major anxiety of the world today is the threat of destruction at the hands of a merciless enemy who would employ the devastating forces of the atom. This can be related directly to the pattern Man has followed in making use of his natural resources. For the seeds of war flourish on lands that no longer are capable of satisfying human needs. Rich soils, and bountiful supplies of the land's products, do not give rise to the unrest that stokes the fires of world conflict.

In many parts of the globe today, the capacities of lands to provide food and fiber for human populations are being dangerously exceeded. Population growth emerges as one of the most serious problems confronting the world.

Since 1945, there has been an alarming acceleration of world population increase. Some 300 million people have been added to the earth's numbers. In the decade 1930-40, the increase was about 225 million—an average of some 22 million per year. The prewar net daily gain of births over deaths was about 60,000. It is now estimated that nearly 100,000 people are added to the earth's numbers every 24 hours.

There are limits to our world. At the current rate of increase, standing room only threatens to become a real possibility. In about four and one-half centuries population density of the entire 52 million square miles of the earth's land surface would be some 25,000 persons per square mile, the concentration of Manhattan Island today. If the rate of population growth increases to 2 per cent, this would happen in only three centuries.

Considering how much desert, arctic, and mountain

land is uninhabitable, it is not too soon to give serious consideration to the question of population optimum for this unexpansible planet.

We hear frequent claims that the production of the world's lands could be increased significantly by modern conservation and land use techniques. This is true. But just how close have we come to making wise use of our resources? How successful have we been in getting conservation applied to the land by the man who makes his living from it?

Let's begin our brief appraisal with consideration of the farming and grazing lands which feed us. Have we succeeded in managing these so that we can be assured of their future productivity?

Recently, the prairies of the West were ravaged by one of the worst drouths in history. Some 30 million acres of crop-producing lands over 14 states were on the verge of being knocked out of production by wind erosion.

Over-grazing that stripped the soil of its natural ground cover, and farming practices which robbed its nutriments and moisture, took their toll in economic hardship and depravation over vast areas. Four hundred thousand acres of our soils blow or wash away each year. Cities, factories and military areas spread over an additional 1.1 million acres. Silting, salting and water logging take another 100,000 acres out of useful production.

Let's turn to our forests for a moment. Are our timber crops holding up to a level of productivity which will assure the satisfaction of our future needs?

We can refer for our answer to the recent Timber Resources Review of the U. S. Forest Service. This shows that population increases over the next 45 years may almost cut in half the number of timber-producing acres for each person in the United States, even if the commercial forest land area were to remain as large as it is now. By 1975 we will have to increase saw timber growth by approximately 45 per cent over the present level of production to meet anticipated needs. Yet the acreage devoted to timber growing in the future will continue to reflect increasing competition with other uses. It becomes obvious that we have much to do for protection of our lumber producing lands.

Water is an essential; we use it in thousands of different ways. How have we treated it?

Pollution continues to menace the public health and eliminate domestic, industrial and recreational uses in areas where demands are greatest. The total untreated wastes discharged daily into our waters from both municipal and industrial sources is equivalent to the waste from 165,000,000 persons. America needs more than 6,000 new municipal sewage treatment plants.

Our unequalled opportunity to enjoy the outdoors is considered by many Americans to be one of the greatest of our heritages. Tens of millions of people seek recreation in places away from the tensions of our busy cities and hectic work-day schedules. This has made wildlife and the outdoors mainstays of the recreational industry.

The national survey of fishing and hunting in the United States revealed that 25 million hunters and anglers spent $3 billion for 500 million days of sport during 1955. Today, long after they have ceased to be the basis of subsistence, fishing and hunting continue as an important part of our standard of living by providing recreation for millions of Americans. The "outdoor industry" is one of the biggest in the nation.

How have we treated it? Let's sample a few facts from the reports of fish and wildlife agencies whose business it is to appraise our successes and failures in this important conservation field.

The listing of endangered wildlife of the United States is, in itself, a startling revelation. Over 40 different birds, mammals and fish are in serious trouble. Each has been displaced from its natural living place by Man. Each clings to survival by a slender thread.

From Florida, where the tiny Key deer is beginning to show promise of recovery, to the marshes of Texas, where the remnant flock of whooping cranes is making a desperate struggle for survival, the problem stems from the same source—the destruction of Nature's homes for her wild creatures.

We now recognize the close relationship between a healthy mind and the physical welfare of the human body. If enjoyment of wildlife and other outdoor values serve as safeguards to Man's health, then these resources are worthy of the best protection and management we can give them.

We, who enjoy the many privileges and prerogatives of democratic government, must be ready to ask ourselves whether we are willing to stand idly by and permit the elimination of these irreplaceable values, to say nothing of our basic soil, water, plant and animal resources. Success in conservation will not come until Americans gain an understanding of the problems and are willing to take forthright action to resolve them.

Most Americans live today without assuming any responsibility for their local community problems. We are dangerously close to trading away our abilities to hammer out problems in the citizens' meeting for our luxury-giving gadgets, television, the super market, and the two cars in the family garage.

Through the breakdown of our citizens' organizations, we are being denied the most effective means of bringing about the understanding that our resource problems require. This leaves no recourse but to turn to the study of making people work together so that they may study the problems of the land, assess the facts, and reach conclusions that will guide and serve as the solid foundation for resource management policies.

This is a challenge which requires that we have faith in the ability of the American people to catch up in making use of sound conservation practices, once they are shown the urgent need for them. The scientific genius, which has made possible mass production of goods for satisfaction of our material wants, can be applied with equal effectiveness to the social and educational requirements of the conservation job.

This must be our answer to the problems growing out of the alarming increases in world populations and the pressure which these are exerting upon our natural resources.

Our opportunities are many. Let's begin at once!

You Can Do It—

Provide Cover For Wildlife

COVER is any material thing that protects wildlife by concealing it from enemies (including hunters), or hampers them in pursuing it, or protects it from weather. It often includes "housing" but also includes the protective medium in which wildlife moves around and carries on its life activities.

Different game birds and animals have different cover requirements, and each species needs several different kinds of cover, such as winter cover, refuge cover, loafing cover, nesting cover, and roosting cover. In general, most species need cover where they can rear their young in safety, get their food without exposing themselves too much, and find shelter from heat and cold, rain and snow.

Soil and water conservation practices such as tree planting, establishment of woodland borders, the planting of hedges, stream bank planting, planting of odd corners of the farm to trees and shrubs or fencing them against grazing, the planting of windbreaks to protect farmsteads or roadways, woodland protection (fencing) against grazing by livestock, pond development, and marsh development provide game cover as a secondary consideration.

Here's the kind of cover our favorite game birds and animals need and how to provide it for them. (Plants mentioned may be obtained from any reputable nursery.)

Rabbit Cover

Cottontails thrive on agricultural lands where cropland, grassland, woodland, and "brushland" are about equally represented and well distributed.

One of the most favored items of cover is the burrow of a woodchuck, which serves as an avenue of escape and as shelter from storms and cold winter weather.

Brushpiles also provide rabbits with effective protection from natural enemies. They are made by piling brush over a stump or large rock in a loose fashion. The brush can be topped with hay and straw and weighted with branches or saplings to keep the wind from blowing the cover away. Brush or discarded Christmas trees piled over eroded gullies, and prunings from apple trees placed in a neat pile outside the orchard, are similar practices.

Deficient winter cover can also be reinforced by felling branchy trees with the leaves on, and leaving the tops unlopped. If in pasture, the fallen top should be fenced so that grass, weeds, and vines can come up through it. Seeding a few spots on its outer edge with false climbing buckwheat, or planting a few wild grape cuttings, will add density, permanence, and food. A modification of this idea is to select a tree already bearing a grapevine, and cut the tree *but not the grape.*

The very best of all bedding grounds for cottontails results when stiff crooked brush, such as oak loppings, is placed in small piles upon a strong bluegrass sod. During the succeeding summer the grass, being mechanically sustained and protected from grazing by the brushpile, grows up through it and weaves a warm dry airy structure ideal for "beds."

Safe routes of travel, such as brushy fencerows, gullies, or rows of cornshocks should connect cover with feeding grounds.

The felling of big trees along old fencerows will release gray dogwood, blackberry, raspberry, chokecherry, sassafras, hazelnut, and greenbriar for escape cover.

Gully plantings, which stop erosion while providing food and cover for wildlife, may include grass-clover sods, Tatarian honeysuckle, bayberry, coralberry, black haw, silky dogwood, elderberry, and vines such as fox grape, Virginia creeper, and bittersweet. In deep gullies, plant Virginia pine or black locust near the bottom.

"Odd areas" such as fence corners, rocky spots, bare knobs, blowouts, sinkholes, borrow pits, abandoned roads, and good land isolated by ditches, streams, and gullies may become extremely valuable wildlife areas if protected from fire and fenced to protect them from grazing.

Hedges, including living fences of multiflora rose, are often used to separate pasture from cropland and are especially useful for irregular contour fences around ponds on gullies and along streamlands.

Tree plantations provide cover for wildlife as well as a source of income to the landowner. Evergreens planted where there will be good grass cover for a few years create ideal habitat for cottontails. Pine trees provide good wildlife protection until they reach a height of about 15 feet. If small blocks and narrow strips in solid stands of scrub pine are sold for pulp, wildlife will benefit.

Plantings of Christmas trees are particularly valuable for wildlife because the trees are harvested before they are large enough to shade out all the grass cover.

Windbreaks—rows of evergreen trees and shrubs planted north and west of farm buildings to provide protection from prevailing winds—are rabbit havens. Plant two rows of Norway spruce or Austrian, red, Scotch, or white pine at eight by eight feet spacing in the center. Border the evergreens with two or more rows of Amur privet, Tatarian honeysuckle, or other shrubs spaced three to four feet apart.

Farm pond margins will benefit cottontails and other game more if they are fenced and protected from fire, grazing, and mowing. Reed canary grass and wet site shrubs including silky dogwood, basket willow, red ozier dogwood, and highbush cranberry may be planted in such marshy areas for wildlife food and cover.

Less obvious than protective cover but just as important to cottontails is nesting cover in the form of permanent grass fields that are not mowed until late summer. Improved pastures which are not grazed too heavily are also a boon to bunnies.

Quail Cover

The bobwhite is a bird primarily of farm lands, thickets, and open woodland. Ideal range contains about equal proportions of cultivated crops, ungrazed grassland, brushland, and woodland. In Virginia, quail also thrive under a canopy of forest trees if the forest is not too dense. Open-

ings, consisting of small fields, should be about 25 percent of the entire area.

A primitive type of farming, in which weedy fields, bushy fence rows, and odd corners supply an abundance and variety of suitable cover, favors a high quail population, but "clean farming" is detrimental to quail.

Brushpiles, tangled thickets, and fallen trees with untrimmed branches, described under "Rabbit Cover," also protect bobwhite quail from their natural enemies.

If field borders, which are often unproductive and badly eroded, are planted to adapted shrubs such as bicolor lespedeza, they will feed and harbor more birds *as long as they are not grazed.*

Some of our finest remaining quail cover, especially nesting cover, is to be found along railroad tracks. *This bushy cover should not be burned.*

Strip cropped fields attract about twice as many ground nesting birds as individual fields because they have more "edge" where food and cover are close together. Cornfields, under which weeds and grasses come in naturally, may be the key to the abundance of quail in some areas.

Squirrel Cover

The gray squirrel is an inhabitant of hardwood forests in large relatively unbroken tracts. Preferred cover consists of old trees and mast-producing species such as the oaks, hickories, beech, walnut, and butternut, interspersed with other hardwoods like the maples, elms, and gums.

Large trees—stands near 100 years old, or younger stands interspersed with wolf trees left from previous cutting operations—are an essential element of the habitat. Den holes take from eight to 30 years to develop. A minimum average of two den trees per acre of land should be left for squirrel homes within forested areas being logged.

As a long term improvement for squirrels, landowners can plant walnut trees in odd areas by placing walnuts under inverted tin cans, pressing the cans into the soil, and cutting a cross into the bottom of each can, bending the points up to allow the sprout to push through while protecting the nut from foraging squirrels.

Commission Photo by Kesteloo

Old trees are a "must" in gray squirrel habitat because den cavities, where squirrels rear their young, take up to 30 years to develop.

Grouse Cover

Although forests, in one form or another, are the typical habitat of the ruffed grouse, the grouse is nevertheless a bird of the edges. Its cover requirements are seasonal in character. In winter it prefers a mixed stand of hardwoods and evergreens including two or three large hemlocks or pines every 25 acres for protected roosting sites and an abundance of food species like alders, poplars, birches and cherries.

In the spring the male grouse "drums" from atop a large log in young mixed stands containing conifers. The grouse mother selects a location near the woods edge or in an interior opening for her nest, and grouse broods are found mainly in openings or near the edges if in the woods.

Cover suitable for late summer is usually extremely dense. Open glades supporting a growth of ferns and shrubs, brushland containing tangles of brambles and other low-growing plants, young stands of hardwoods and alders along swamp margins, streams, and lake borders are typical haunts at this season.

During the fall season they commonly frequent sites that produce autumn fruits abundantly, particularly abandoned farm lands and forest openings such as those created by recent logging operations.

Bulldozing 10- to 25-acre areas in stands of two-inch to six-inch D. B. H. beech-birch-maple forest in the spring provides cover for grouse as well as food for deer. They should be of a very irregular shape to increase "edge effect," and at least 100 feet wide.

Improving pastures by planting and fertilizing keeps livestock from grazing steep woodlands. Companion practices of tree planting and pasture improvement benefit many kinds of woodland wildlife including grouse.

Turkey Cover

Virginia's wild turkeys require mature or nearly mature forests with little understory, providing mast, insects, and winter cover. They nest in openings, which should constitute 10 to 50 percent of the total habitat, and roost in large hemlocks and pines. Where turkeys are known to roost, special consideration should be given to preserving these trees. Conifer clumps should be favored.

Deer Cover

Deer are most abundant where the cover is characterized by a diversity of types and age classes, including a small representation of nonforested land and considerable areas of dense young stands and brushland.

Nonforested types such as meadows, open swales, and margins of ponds are frequented during the morning and evening feeding times; forested cover is preferred during the intervening day and night periods.

Slashings left after logging jobs and openings created by bulldozing are heavily used by deer.

Bear Cover

Mature forest and dense brushy areas providing all types of food meet the black bear's cover requirements. Unusually large and hollow trees that would house a bear should be left in the forest as "escape trees."

A beauty! This five-pound striped bass caught in Buggs Island Lake in February is proudly displayed by Joyce Potterson of Danville. Howard Woody, also of Danville, admires the plump "rock."

STRIPER STRIKE In Buggs Island Lake

Text and Photos
By GEORGE H. HARRISON
Education Division

SAY, friend, have you heard about them? The stripers in Buggs Island Lake? You haven't! Well, pull up a chair. I've got something tremendous to tell you.

Sure, you've caught some big ones in your time, and they probably gave you a real fight, but believe me, you haven't lived until you have hooked a 5, 10, or 15 pound striped bass!

The striper, or "rock," is a salt water fish that is thriving in the fresh water of Buggs Island Lake. This fish, by nature, seeks fresh water to spawn, but returns to the ocean when spawning has been completed. The striper was known to spawn in the Roanoke River in south-central Virginia for many years before Kerr Dam went in.

In 1952, the U. S. Army Corps of Engineers completed the John H. Kerr Dam on the Roanoke River and created Buggs Island Lake or, as the tarheels call it, Kerr Reservoir. The dam backed up 50,000 acres of water with an 800-mile shoreline and landlocked many adult stripers. The North Carolina Wildlife Resources Commission stocked a million striped bass fry in the reservoir in 1953, 1954, and 1955, and this combination has created a striped bass boom that offers some of the finest sport fishing in the United States.

Last year, several thousand stripers were caught above and below Kerr Dam. Those in the know say that it's going to get better each year. This is just the beginning.

Last August, H. B. Coley caught a 15-pounder just below the dam, and R. C. Hallett of Boydton caught a 12-pounder in the lake above the dam. In October, three local fishermen caught 26 stripers and two large-mouth bass for a total of 142 pounds of fish in 2½ hours. (A Commission regulation placing a 12-inch minimum size limit and a creel limit of eight on striped bass in Buggs Island Lake went into effect on January 15.) They landed all of these fish off a dock about four miles above the dam in the reservoir.

Fishermen are successful in catching the striped bass in these three different ways at Buggs Island Lake (left to right): D. A. Lynn of South Hill prefers to bottom bump or jig in the turbulent waters below John Kerr Dam; Irby Turnbull, Jr. of Clarksville and W. A. Loftis of Nelson troll near the shore of Buggs Island Lake; fishermen also cast into the reservoir and bottom bump their lures to shore. Since Buggs Island Lake has more than 800 miles of shoreline, there is room for everyone.

A similar but much greater bass boom has already occurred in the Santee-Cooper lakes of South Carolina. In the early 1940's several dams and dikes were built in the east-central part of the state creating Lake Marion and Lake Moultrie. Here, too, landlocked stripers thrived, and millions spawned and grew up in the Santee-Cooper without a taste of salt water during their entire lives. In a fragmentary creel census there over a 12-month period, almost 100,000 fishermen caught more than 280,000 striped bass. These studies showed that 54.9 percent of the catch by fishermen in the Santee-Cooper were striped bass. In 1959, the average weight of the stripers caught was 3.4 pounds. The unconfirmed record for stripers caught to date in Santee-Cooper is 50 pounds.

Stripers have not been in Buggs Island long enough to get that big, but give them time. Fifteen pounds is about the largest caught to date, but the world's record is 125 pounds, so they can get big.

How do you go about catching these big fellows? There are two ways to do it: One is by trolling; the other is by bottom bumping or jigging.

The trollers claim it's best to start near shore and zig-zag out to deeper water up to 14-16 feet. Then start back into shore following the same zig-zag pattern. If you get a strike, drop anchor and begin to bottom bump.

Bottom bumping or jigging is accomplished by casting and allowing your lure to touch bottom. Then with a quick jerk, you pull your bait a few feet toward you and let it touch bottom again. This is continued until the lure has been reeled all the way in.

Bottom bumping can be worked from a boat or the shore.

Below the dam, fisherman have been most successful by casting into the turbulent waters and "bottom bumping" their lures.

The next thing you'll want to know is what kind of lure is best for catching the striper. The trollers like the bomber plug and the spoon. The bottom bumpers think the bucktail is best for their use. The old timers will tell you that minnows will catch stripers better than anything else.

In the turbulent waters below the dam, most fishermen like the bucktail. This lure will move down stream with the current as it sinks to the bottom. Because of the rough bottom, many lures are lost here by snagging (as they are in many parts of the lake).

The preferred rig for striper fishing at Buggs Island is a light salt water outfit. An 18 or 20 pound-test monofilament line seems to work well. Here again the rough bottom requires a strong line to save those lures. Monofilament line doesn't sink as straight or as fast, thus making it a better trolling line.

Now that we have our rig and tackle ready, when do we go? Those who fish the reservoir say the best time of day is between 10:00 a.m. and 4:00 p.m., and it isn't necessary to get up at the crack of dawn. The best fishing below the dam occurs when the dam doors are opened, day or night. And to make it even more confusing, Commission fish biologists do all of their net sampling at night because they feel that the stripers move more at night.

So take your choice on the time of day. In the reservoir, one time might be as good as another. Below the dam, the best time undoubtedly is when the water gates are open, day or night.

The time of the year seems to be an important factor in catching this fish. In the fall, around October when the stripers are schooling, has proven to be the very best. In the spring when the stripers are spawning also is good, but the fall is better.

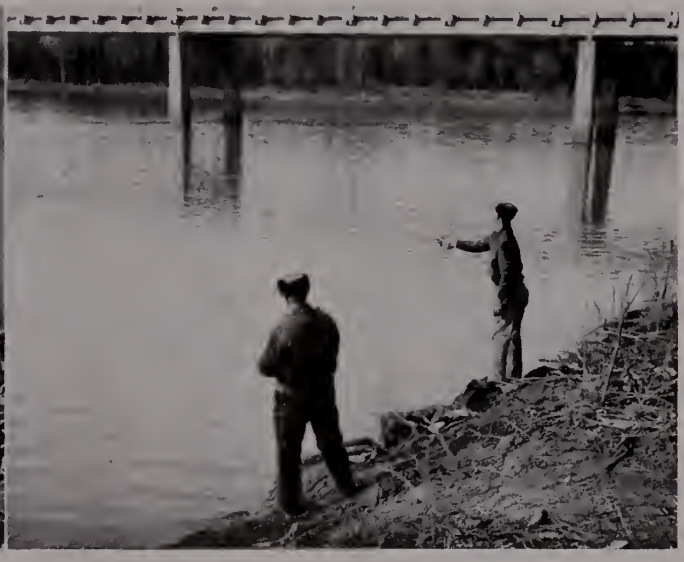
At Buggs Island Lake, the term "hot spot" is used quite often to mean the place where stripers are biting. In the reservoir, the hot spots change because of the rise and fall in the water level. Below the dam, the hot spots remain more constant, the best being right at the dam.

D. A. Lynn of South Hill swears that the best fishing is at the dam when the gates are open. He caught six striped bass there on Christmas Day ranging in weight from 3 to 8 pounds.

Others will stand by fishing in the lake where some of the biggest catches are being made each fall.

When asked what it's like to hook a big striper, Lynn said, "It's not as showy as a largemouth, but much stronger. He won't jump but will come to the surface and roll over. When you hook a striper, you're up against a tremendous fish!"

Since Buggs Island Lake is on the Virginia-North Caro-



Here are the three lures most commonly used to catch stripers in Buggs Island Lake. Left to right, they are the bucktail for bottom bumping and the bomber and spoon for trolling.

lina border, licenses might have presented a problem had the two states not had a cooperative agreement. Holders of state resident or non-resident license from either state can fish in the reciprocal area of Buggs Island Lake. The boundary on the Roanoke River where North Carolina licenses are not recognized is clearly marked.

The Virginia Commission of Game and Inland Fisheries is very interested in the Buggs Island bass boom. This interest was intensified when it became known that several dams were proposed on the Roanoke River upstream from the reservoir. A study headed by Virginia fish biologist Nat Bowman was immediately launched to locate the spawning grounds of the striper and to learn more about its spawning requirements.

These studies revealed that the striper's spawning activity was centered in the Roanoke River between the head of the reservoir and Brookneal, some 40 miles upstream. Additional studies revealed some use of the other major tributary, the Dan River. However, no evidence of spawning was found in other smaller streams emptying into the reservoir.

This evidence pointed out the importance of the Roanoke River as the major spawning grounds of the striper and showed the danger that the proposed dams posed to the future of this fish.

To date, the only dam in the advanced planning stage is the Smith Mountain Project, located about 70 miles upstream from the head of the reservoir. After long but fruitful negotiations, the sponsor of the project, the Appalachian Power Company, agreed to release sufficient water during the striper spawning season to insure successful reproduction of this bass.

The Commission is continuing its studies on the striper and keeping a watchful eye on any project that may be suggested in the immediate vicinity of the spawning grounds.

The studies referred to above also show that the population of the striped bass is increasing at a rapid rate. Barring interference from dams, the future of the striped bass in Buggs Island Lake is extremely bright.

Fish Division personnel Bradley Rawles and Orson Gillespie pull in a gill net to check striper populations in Buggs Island Lake.

To accommodate this increasing interest in fishing in Buggs Island Lake, the people of Clarksville, Boydton and other surrounding communities provide excellent hotel, motel, and eating facilities. Several sporting goods stores will help you select the proper equipment and give you some tips on where to go. Owners of sporting goods stores say that business is good and has been on the increase since 1953, due in part to the "bass boom."

EDITORIAL (Continued from page 3)

as intermarriage with closely confined space groups may have psychological barriers not easily overcome.

We have said that these human barriers may be among our most difficult problems and this may very well be man's Armageddon. Perhaps man was never meant to go exploring through outer space.

One only has to look at our immediate space problems on earth—the earth that we have an opportunity to know quite well—to realize that we haven't done such a good job of ironing out our human problems here.

Take the problem of how to get industry and municipalities to stop the abominable practice of dumping sewage and other wastes into our streams and rivers. Clean water in our land for our people is not too much to ask when we are supporting a much more costly space program.

And what about providing enough parks and wholesome outdoor recreation areas for our growing millions? What about our priceless natural areas that are disappearing before our very eyes—wilderness places, primeval bits of land, beaches, wild marshes? These are everyday space problems on the earth we know, and they are important too. Yet we seem to have trouble solving them.

No. We are not against reasonable effort and expense in outer space. This is probably necessary and proper. We are simply for more serious attention to space problems down here on the good old planet Earth that we know.

It seems to us that only by making a noble success of resolving our space problems on earth can we hope to succeed in our designs on the awesome universe above us.—J. J. S.

Virginia's Deer, Bear, and Turkey Kill for 1959-60

By RICHARD H. CROSS, JR.
Chief, Game Division

HUNTERS in Virginia bagged 28,969 whitetails during the 1959-60 season—another new record for the Old Dominion. The area west of the Blue Ridge yielded 15,745 deer of which 9,678 were bucks and 6,066 were does. In Eastern Virginia a kill of 13,224 animals was made up of 9,016 bucks and 4,208 does. Accurate samples in the west indicated a 13 per cent increase in hunter pressure over the previous season.

Unusually heavy hunter pressure occurred in several eastern counties in which antlerless deer were legal game. This situation might be prevented in future years by having "any deer" seasons uniform as to length and opening dates. Antlerless deer were legally hunted in 32 counties east of the Blue Ridge mountains for periods varying from one day to the entire season. Game wardens and biologists are confident that a maximum of two different antlerless deer seasons will suffice and tend to minimize hunter concentrations by reducing the number of so-called "opening days."

Data indicates that when an eastern county changes from a one deer per season bag limit to a two-a-season limit, only approximately 10 per cent more deer will be taken in that county. For this reason, it might be possible to have a uniform two deer limit east of the Blue Ridge without ill effect.

Final count for the state's 1959-60 bear kill is 361—the highest kill on record, exceeding even 1953's total of 359. Some 83 bear were bagged in Augusta County.

While the bear kill went up in the northern Allegheny and Blue Ridge bear ranges, it declined in the southwest and also in Dismal Swamp where wet weather kept access roads closed during much of the season.

Of the total state bear kill, slightly more than half were males. The high bear kill went hand-in-hand with a good mast (acorn) crop as it has often done in the past.

During the 1959-60 bear season 16 of the 50 ear-tagged bear on the North River—Reddish Knob and Big Levels areas in Augusta County, including two tagged in 1958, were taken by hunters. This 33 percent mortality is high; biologists estimate that if more than 24 percent of a bear population is taken its numbers will be reduced. However, it is felt that these areas withstand unusually high hunting pressure and are repopulated with bear from less heavily hunted areas during the closed season.

Virginia's record turkey kill for 1959-60 tends to emphasize the fact that the success of the nesting and brooding seasons is still the primary factor governing fall populations. The species has a very high reproductive potential (an average of 12 eggs per clutch) and whenever the majority of the young of the year reach maturity one can expect all suitable ranges to be well stocked. Tag returns showed a statewide ratio of 1 adult hen for every 3.4 young birds taken by hunters. The ultimate would be 12 juvenile birds for each adult hen.

County	1957-58			1958-59			1959-60		
	Deer	Bear	Turkey	Deer	Bear	Turkey	Deer	Bear	Turkey
Accomac	19			23			28		
Albemarle	91	1	42	113	4	17	109	2	49
Alleghany	360	7	32	487	6	48	595	38	117
Amelia	80		94	85		49	98	1	146
Amherst	67	8	16	80	17	19	72	24	35
Appomattox	91		39	85		14	99		40
Augusta	1,187	78	53	1,624	69	151	1,955	83	260
Bath	1,351	2	156	1,738	3	231	2,121	11	319
Bedford		11	8		10	8		6	10
Bland	57	5		96	11		55	11	
Botetourt	301	8	10	371	14	37	400	37	61
Brunswick	40		47	36		14	64		45
Buckingham	382		104	377		60	380		157
Campbell	6		10	2		6	7		44
Caroline	1,671		91	1,766		44	1,604		153
Carroll	9			5			11		
Charles City	503			449			203		
Charlotte	8		32	11		36	8		40
Chesterfield	102		47	147		37	169		104
Clarke	62			75			85		
Craig	447	6		800	3		889	8	
Culpeper	253		22	221		8	196		33
Cumberland	157		47	222		36	260		204
Dinwiddie	172		85	154		48	186		98
Essex	134		6	172			148		3
Fairfax	10		11	38		11	39		18
Fauquier	92		18	255		12	258		42
Floyd							23		
Fluvanna	54		31	73		26	129		31
Franklin							4		
Frederick	833		19	1,037		34	1,213		42
Giles	385	4		735	6		623	4	
Gloucester	36			54			46		
Goochland	54		22	74		20	79		24
Grayson	273			247			460		
Greene	15			19			24	2	
Greensville	86		30	78		1	97		20
Halifax	300		71	271		41	287		59
Hanover	132		11	158		11	176		16
Henrico	34		10	43		3	44		4
Highland	366	3	43	409	4	142	563	12	207
Isle of Wight	116		5	154			238		
James City	527		11	178			157		15
King George	310			299			353		
King and Queen	184		12	169		23	232		30
King William	266		8	272		3	284		21
Lancaster	48			71			94		
Lee	19			28			30		
Loudoun							73		
Louisa	75		33	108		29	181		59
Lunenburg	16		38	27		20	30		33
Madison	7			13			10	6	
Mathews	24			11			27		
Mecklenburg	11		36	15		15	17		24
Middlesex	18			37			23		
Nansemond	190	3	7	242	13		228	12	1
Nelson	54	25	30	77	19	27	82	22	49
New Kent	430		25	526		5	297		56
Norfolk	633	1		719	18		600	7	
Northumberland	39			68			69		
Nottoway	37		30	95		18	112		49
Orange	223		54	186		37	157		77
Page	408		14	464	1		407		
Patrick	67			83			69		
Pittsylvania				2		12	9		12
Powhatan	101		44	134		37	167		74
Prince Edward	15		41	9		19	29		34
Prince George	426		60	280		11	765		68
Princess Anne	6						15		
Prince William	78		51	130		15	245		60
Pulaski	4			40			52	1	
Rappahannock	20			51			60		
Richmond	68			83			85		
Roanoke	21			18			23		
Rockbridge	292	19	47	401	18	93	520	24	151
Rockingham	822	23	19	1,155	42	23	1,329	43	88
Russell	5			7			4		
Scott	216			189			373		
Shenandoah	2,175	1	38	2,491		27	2,065		55
Smyth	345	1		290	7		774		
Southampton	666		21	1,184		3	704		26
Spotsylvania	266		61	299		28	369		97
Stafford	311		44	380		10	460	1	46
Surry	317		60	333		11	462		56
Sussex	261		54	357		41	502		99
Tazewell	45	2		67	4		57	2	
Warren	400			411			422	1	
Warwick (N. News)	335			467		2	233		
Washington	135			122			251		
Westmoreland	55			59			94		
Wise	248			139			295		
Wythe	99	5		97	3		150	3	
York	819		10	1,176		6	878		10
Total	22,473	213	2,060	26,843	272	1,679	28,969	361	3,671

A Virginia Research Report—

Trends in Hunting Pressure on White-tailed Deer West of the Blue Ridge as Measured by County Big Game Damage Stamp Sales

By JACK V. GWYNN
Game Research Biologist In Charge,
Virginia Upland Game Investigations
(Pittman-Robertson Federal Aid Project 40-R)

IN analyzing the results of Virginia's white-tailed deer hunting seasons, we must consider the effect of variations in hunting pressure on the deer population because the size of any game harvest is the result, primarily, of two factors: the total number of the species and the total amount of effort spent hunting this species.

The measurement of hunting pressure used here is simply the number of county big game damage stamps which were sold in the various counties up to closing time on the last day of open deer season. Because bear hunters, as well as deer hunters, are required to purchase these county stamps, some bear hunters who do not hunt deer are no doubt included. The bear season begins the Monday following the end of the deer season on the preceding Saturday. No hunting is allowed on Sunday in Virginia.

TABLE I

A Comparison by Unit and by County of Damage Stamp Sales in 1958 and 1959

Unit	County	Square Miles of Forest Range	Number of Stamp Holders During 1958 Season	Number of Stamp Holders During 1959 Season	Percent Increase or Decrease	Stamp Holders Per Square Mile Forest Range
1	Wise*	314	2,430	2,768	14% increase	7
2	Bland*	268	1,900	1,553		7
2	Tazewell	296	1,590	1,506		5
	Unit total	564	3,490	3,059	12% decrease	6
3	Grayson*	217	2,564	2,852		13
3	Smyth*	254	3,041	5,067		20
3	Washington*	267	2,256	2,789		10
3	Wythe*	232	1,490	1,717		7
	Unit total	970	9,351	12,425	33% increase	13
4	No damage stamp					
5	Craig*	269	4,290	4,830		18
5	Giles*	259	4,344	4,363		17
5	Rockbridge*	395	3,040	3,468		9
	Unit total	923	11,674	12,661	8% increase	14
6	Bath*	473	6,916	7,618		16
6	Highland*	307	2,148	2,326		8
	Unit total	780	9,064	9,944	10% increase	12
7	Warren	131	2,581	2,562	1% decrease	20
	Total	3,682	38,590	43,419	13% increase	12 (average)

*The counties with the asterisk in Table I are those used in Table II.

Records are available from 11 of the 13 western counties presently selling damage stamps, so that a comparison may be made of damage stamp sales for the past six deer hunting seasons west of the Blue Ridge Mountains. Table II shows these figures, with the percentage of change from year to year given.

Total sales in these 11 counties have gained 10,457 in number, or 36 percent, from 1954 to 1959. Nearly half this gain was made in 1959. The drop in 1957 sales below that of 1955 and 1956 indicates influencing factors other than season-type changes (primarily weather). Except for one county, Smyth, all counties held a "buck only" type of harvest in 1955. Approximately 25 percent more "any deer" hunting was allowed in 1957 than in 1956.

TABLE II

Damage Stamp Sales Figures from 11 Counties West of the Blue Ridge

	1954	1955	1956	1957	1958	1959
Total Sales	**28,894**	**32,766**	**33,406**	**32,313**	**34,419**	**39,351**
Percentage Change		+13%	+2%	—3%	+7%	+14%

For added significance, the counties west of the Blue Ridge have been divided into seven units using county boundaries as shown in Figure 1. Briefly, units 1 and 3 had one day of "any deer" harvest in 1959, a "bucks only" harvest in 1958. Units 5, 6 and 7 had three days of "any deer" season in 1959, two days of "either sex" shooting in 1958. Units 2 and 4 remained the same, with a "bucks only" harvest. Total season length is six days for all units.

(Acts of the Virginia General Assembly are required to permit counties to issue big game damage stamps. In the counties which issue these stamps, it is unlawful for any person to hunt bear or deer without first having obtained this special one-dollar stamp, affixing it to the back of his license, and signing it. The net receipts from the sale of stamps in each county are used to pay for damages to crops by deer and to livestock by bear in those counties. Damage claims are investigated by game wardens and may be submitted to arbitration.)

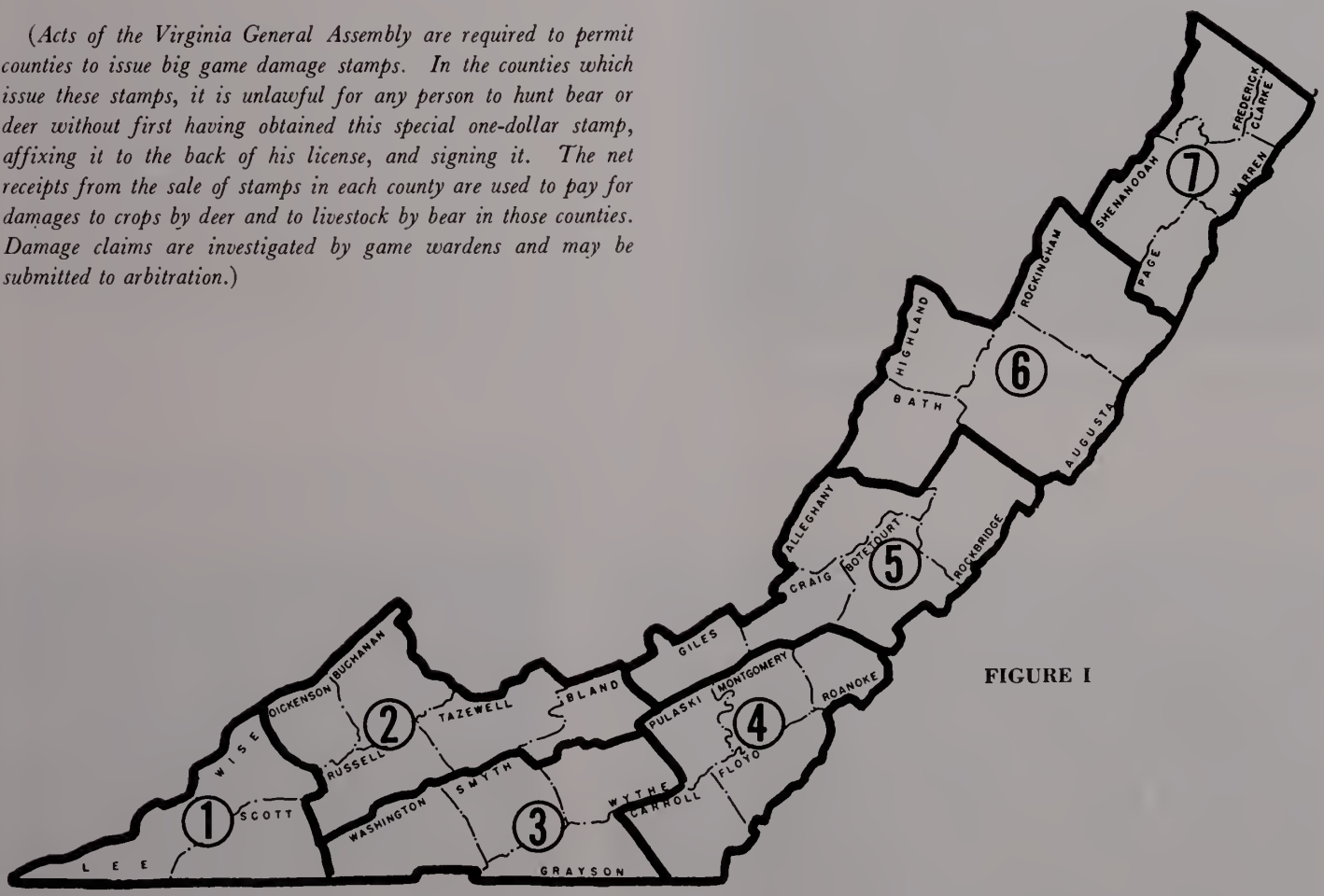


FIGURE I

Dr. Robert Krol (center), botany prafessar at the wildlife reseorch unit, helps wildlife graduate students Joe Hardy and Jomes Whelon key down twigs in a typical botony class.

Dr. Henry Mosby, professor af wildlife monagement at the wildlife reseorch unit, conducts classes on aging deer by teeth examinotion. Graduate students Ernest Seneca, Allen Rex, and Gus Nickols are preparing themselves for proctical work in the field during future hunting seosons.

IN THE LAB . . .

Bobcat porosites ore being studied by parasitologist Herbert Klewer (right) in cooperation with the unit. Dr. Mosby and Klewer are examining one of the captive cats at the college.

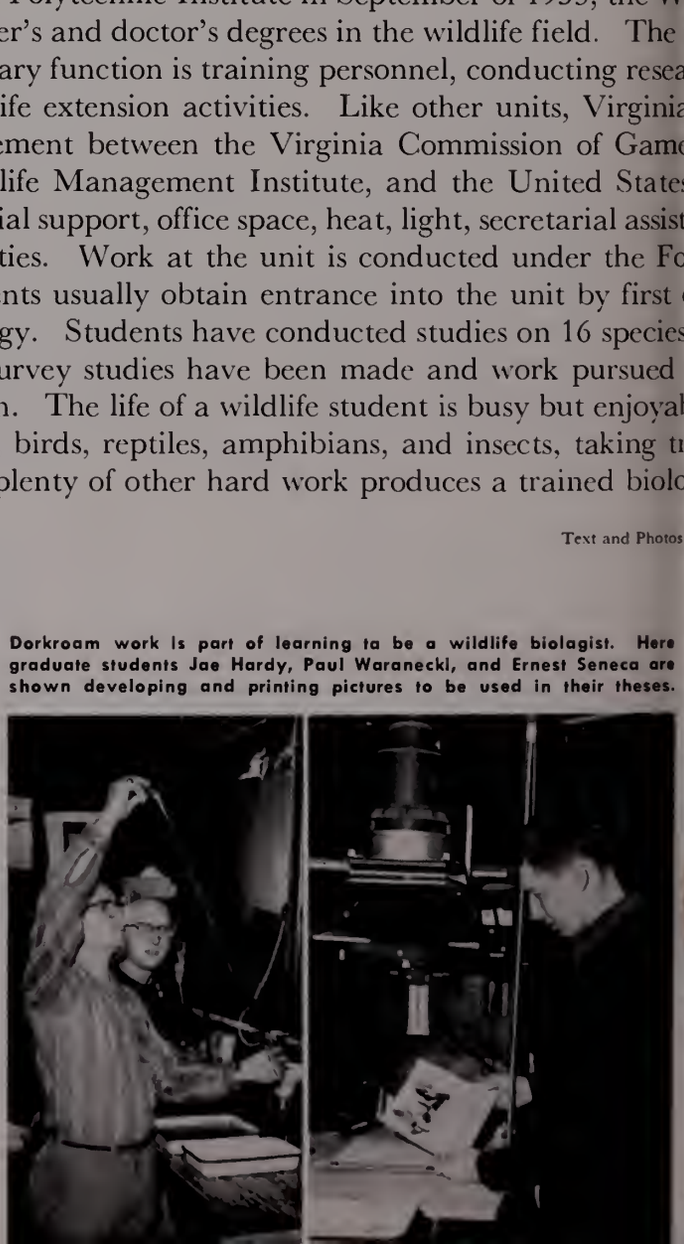
Virginia's Wildl

To meet the rising demand for technically trained m
Wildlife Research Unit is hard at work turning out qua
ginia Polytechnic Institute in September of 1935, the Wi
master's and doctor's degrees in the wildlife field. The u
primary function is training personnel, conducting resea
wildlife extension activities. Like other units, Virginia
agreement between the Virginia Commission of Game
Wildlife Management Institute, and the United States
nancial support, office space, heat, light, secretarial assist
facilities. Work at the unit is conducted under the For
students usually obtain entrance into the unit by first c
biology. Students have conducted studies on 16 species
life survey studies have been made and work pursued
lution. The life of a wildlife student is busy but enjoyab
mals, birds, reptiles, amphibians, and insects, taking tr
and plenty of other hard work produces a trained biolo

Text and Photos b

Dr. Burd McGinnes, leader af the unit, watches wildlife graduate student Ernest Seneca prepare a mount of o male wood duck in the unit workshop.

Darkroam work is part of learning ta be a wildlife biolagist. Here graduate students Jae Hardy, Paul Waraneckl, and Ernest Seneca are shown developing and printing pictures to be used in their theses.



Dr. Burd McGinnes, leader af wildlife research unit at V. P. I., conducts numerous field trips with the graduate students ta all parts of the Commonwealth. Here Dr. McGinnes is showing the results of deer brouse in a wooded area near the college.

Rabbit trapping for study is an active program of the unit. Here unit leader Dr. Burd McGinnes shows wildlife student Paul Woronecki how a rabbit trap is set for best results.

ife Research Unit

er n the wildlife management field, Virginia's Cooperative lli d game biologists. Established on the campus of Virld e Research Unit has graduated more than 60 men with n at V. P. I. is one of 16 units in the United States whose rch on the state's wildlife resources, and carrying out certain s Wildlife Research Unit functions through a cooperative a l Inland Fisheries, Virginia Polytechnic Institute, the F n and Wildlife Service. These agencies contribute fian , instructional staff, vehicles, salaries, and miscellaneous res y and Wildlife Department on the graduate level and bt ning an undergraduate degree in forestry, zoology, or of ame birds and game animals native to Virginia. Wildon onservation education, animal ecology, and water pole Much time is spent outdoors, identifying plants, mamac counts, draining fish ponds, and aging deer. All this gis

by rge H. Harrison

IN THE FIELD . . .

The wildlife unit maintains a fish pond on the V. P. I. campus to study new and better methods of pond management. Here a wildlife student is shown fertilizing the pond in the spring.

Dr. A. B. Massey, Professor Emeritus, is still very active in the V. P. I. Wildlife Research Unit. Curator of the Herbarium is his present title, but Professor Massey is working on a manual of Virginia grasses.

Water lilies are pretty but undesirable in a fish pond. Dr. Henry Masby is shown spraying the lilies in an attempt to control their spread in the wildlife unit-managed pond on the V. P. I. campus.

Favoring Wildlife in Your Landscape Plan Around the Home

By ARTHUR A. DUGDALE
Ashland, Virginia

THE phenomenal growth of new residential areas surrounding Virginia cities is perfectly natural. People want more space in which to enjoy the modern way of life. After all, this is the Space Age.

So they buy a little place in the country, or in a new subdivision, nearer to their recreation, yet not too far from their work. Modern transportation and good roads make this possible.

But every new home presents problems—including the practical landscape development of the grounds. There is enough space to plan the new grounds, providing areas for the special interests for every member of the family . . . and, in the process, additional food for wildlife.

Men will want to grow some small fruits, such as strawberries, raspberries, blueberries, and grapes, while dwarf fruit trees should provide luscious apples, peaches, pears, and cherries. A well planned fruit garden should be an attractive feature of modern home grounds. This is an old Virginia custom that defies time. Vegetables also deserve their rightful place, with the fruit trees breaking the sudden transition from flowers to cabbages!

The ladies will arrange the flower garden, with rose beds, borders for annuals and perennials, lawn areas, walks and other features. But don't forget the children. Plan their play yard near the house, easily seen from the kitchen window. They don't mind seeing the service area. But they do need a good shade tree to climb in, and a sand box, that later may be replaced by a make-believe launching pad for rockets, and other equipment of this space age.

To the new home owner these ideas may seem pretentious, but now is the ideal time to insure future beauty and pleasure for your family, with rich dividends in flowers, fruits, vegetables and wholesome living.

In home grounds development, it is important to do first things first. Procure a landscape plan, if only a pencil sketch of your own making. Plant every tree and shrub as shown in this sketch, and the finished picture will not be disappointing.

In planning the landscaping, select the trees and shrubs for their contribution to the completed picture, not for their individual beauty or value. Shade trees should be planted first. There are new, fast-growing varieties that are made for modern home grounds. They are drought and heat resistant, rarely need to be sprayed for insect control. They develop quickly and do not grow too tall for low, ranch-type buildings. Locate shade trees so they will eventually frame the house, but never hide it. One or two may be needed to furnish shade for windows on the south side, or to shelter the kitchen porch.

Consider flowering trees for the front yard. They will provide some shade in addition to blooms in season. The dogwoods are ideal for this. They adorn low, graceful trees with flowers in spring, red berries and brilliant foliage in autumn, and attractive green leaves during summer. Flowering crabapples, flowering cherries and flowering plum trees—valuable wildlife food sources—are also excellent.

For shade trees the new Shademaster thornless honeylocust, Moraine locust, Summershade maple and Crimson King maple are recommended. These are new and better trees, developed to meet modern demands.

The new trend in foundation planting is toward smaller and more colorful plant material. Some "preferred stock" for this purpose is *Pieris japonica*, *Mahonia bealei*, Chinese and Japanese hollies, *Osmanthus* and *Viburnum juddi*. Two newer sorts having yellow flowers throughout most of the summer are *Hypericum hidcote* and Potentilla Katherine Dykes. Camellias, especially the fall-blooming Sasanqua varieties, are splendid for base plantings, in northern or western exposures.

Azaleas provide large splashes of color in spring, and florabunda roses do this from May to October. Florabunda roses, planted beneath the picture window, in a crescent-shaped bed, make an attractive feature. Here, do not mix colors; have all the plants of one variety. Avoid using red and salmon shades against a red brick house; white is much better. Do not mix hybrid tea roses in with other flowers in beds and borders. They belong in beds to themselves, where they look better, and roses need special treatment and space to themselves.

In the fruit garden, the practical should combine with the aesthetic. Run the grape arbor east and west, if feasible. The fruit on the south side of the vines will ripen first, having had more sunlight. That on the shady side will mature a week or so later, lengthening the fruiting season slightly. Also, when run east to west, the grapes will provide a shady strip for a row of raspberries. They resent our summer heat and droughts, but do well where a little shade is available.

For grapes, we suggest you try these improved varieties: Caco, red; Interlaken seedless, white; Steuben, blue-black; and Van Buren, black. Three of them are new, being recently developed for modern home grounds. To support the grapes, space durable posts in the ground 12 feet apart in a line, as long a row as needed. Run two strands of heavy-gauge wire, one three feet above ground, the other being five feet high. Plant one vine between each two posts, spacing them about 12 feet apart. After one season's growth, trim the vines to four main runners, and prune away all other wood, leaving two buds on each lateral shoot that is left. When a mature grapevine is pruned

S.C.S. Photos

Decorative plants providing valuable wildlife food include (from left) blue elderberry, white mulberry, and gray-stemmed dogwood.

properly, it looks like it has been ruined, for from 60 to 80 percent of the wood has been removed! So don't be afraid to cut them back severely during the dormant season.

Raspberries should be grown more widely on home grounds. Space them three to four feet apart, in rows four to six feet apart. They need a fertile, friable garden soil, rich in humus (compost), sufficient moisture, yet good drainage, and some shade is beneficial in our climate. Plant raspberries in early spring. These varieties are choice for home gardens: Latham and Indian Summer, red; Dundee and Cumberland, black; and Sodus, purple. Two choice everbearing varieties are Durham and September, both being red raspberries. We get better results when these plants are grown under a mulch of compost, than with regular cultivation. Work them well with a cultivator or hoe once in late March, then apply a three-inch mulch of well rotted compost or cow manure, if available, and leave this on throughout the growing season.

Regarding compost, that is a necessity for every productive garden, whether fruit, vegetables or flowers are grown. Build the compost pit six or eight feet wide, and as long as needed, usually 10 or 20 feet, and begin it a foot or so beneath the surrounding ground level. The excavated soil is needed on the compost. It contains bacteria and other agents to aid decomposition. Material for compost includes all available vegetable matter, such as old flower stems, grass clippings, spoiled hay, straw and leaves. Coarse manure is fine material when available. Place these in layers eight to 10 inches deep when packed, running the length and width of the pit. Begin with the leaves. On this layer put an average application of agricultural lime, enough to whiten the leaves, to counteract the acidity; then a layer of grass, straw or garden refuse. On this layer apply a liberal coat of 20 percent superphosphate, enough to whiten the material. This breaks down the compost materials and hastens decomposition. Use this between every third or fourth layer. A commercial product called Ammate is made for the purpose, and will give quicker results, producing good compost in only four months, where six to eight months are otherwise needed.

When all available vegetable material is placed in the compost pit, soak it down thoroughly with water, enough to moisten it through. Leave it alone for three months, then spade it through, from top to bottom, and repile it. This mixes the material and hastens decomposition.

Strawberries are very popular for home gardens and are easily grown. Plant them on "listed" furrows, which raises the plants slightly above ground level, for better drainage. Space the plants eight to 10 inches apart, in rows three to four feet apart. Plant strawberries in early spring, not later than April. Usually, fifty plants of each variety are enough for home use. To insure cross pollination, plant at least three varieties. We like these kinds: Early varieties, Red Glow and Earlidawn; early midseason, Fairpeake and Pocahontas; midseason, Catskill and Tennessee Beauty; late, Plentiful, Everbearing, Streamliner and Rich Red.

To complete the home fruit garden, include boysenberries, blackberries and figs. In the dwarf fruit trees, try these apples: Baldwin; Delicious; Double Red; and Grimes Golden; also Stayman and Yellow Transparent.

In peaches, Bell of Georgia, Hale Haven, and Golden Jubilee are desirable.

Dwarf fruit trees should be planted about 10 to 12 feet apart in rows 12 feet apart. These trees begin to bear at an early age, and later pose no height problem for harvesting, pruning or spraying operations.

Modern home grounds can provide a world of interest, pleasure and even good eating for those who will work for it.

Voigt Resigns as Pennsylvania Fish Director

William Voigt, Jr., resigned as executive director of the Pennsylvania Fish Commission, effective February 1, 1960. The Commission has named H. R. Stackhouse, administrative secretary, acting executive director.

Voigt took over the Pennsylvania post in the fall of 1955 after having served as executive director of the Izaak Walton League of America. He named the acquisition and development of access area, purchase of public fishing lakes, efficient management of hatcheries and successful prosecution of water pollution cases as outstanding accomplishments during his tenure at the Commission helm.

Blue Ridge Fever

By DON CARPENTER

ABOUT April first each spring, when the redbud comes into bloom, I break out with a bad case of "Blue Ridge Fever." My piscatorial medical friends can do nothing for me except prescribe long periods of rest outdoors alongside a clear, rushing mountain stream.

I am told my case has been aggravated by the fact that I was exposed back in the days when "native" mountain brook trout were most plentiful in Blue Ridge waters and fishing pressure consisted of only a few mountaineers and the natural enemies of the speckled beauties. Apparently, such cases are incurable.

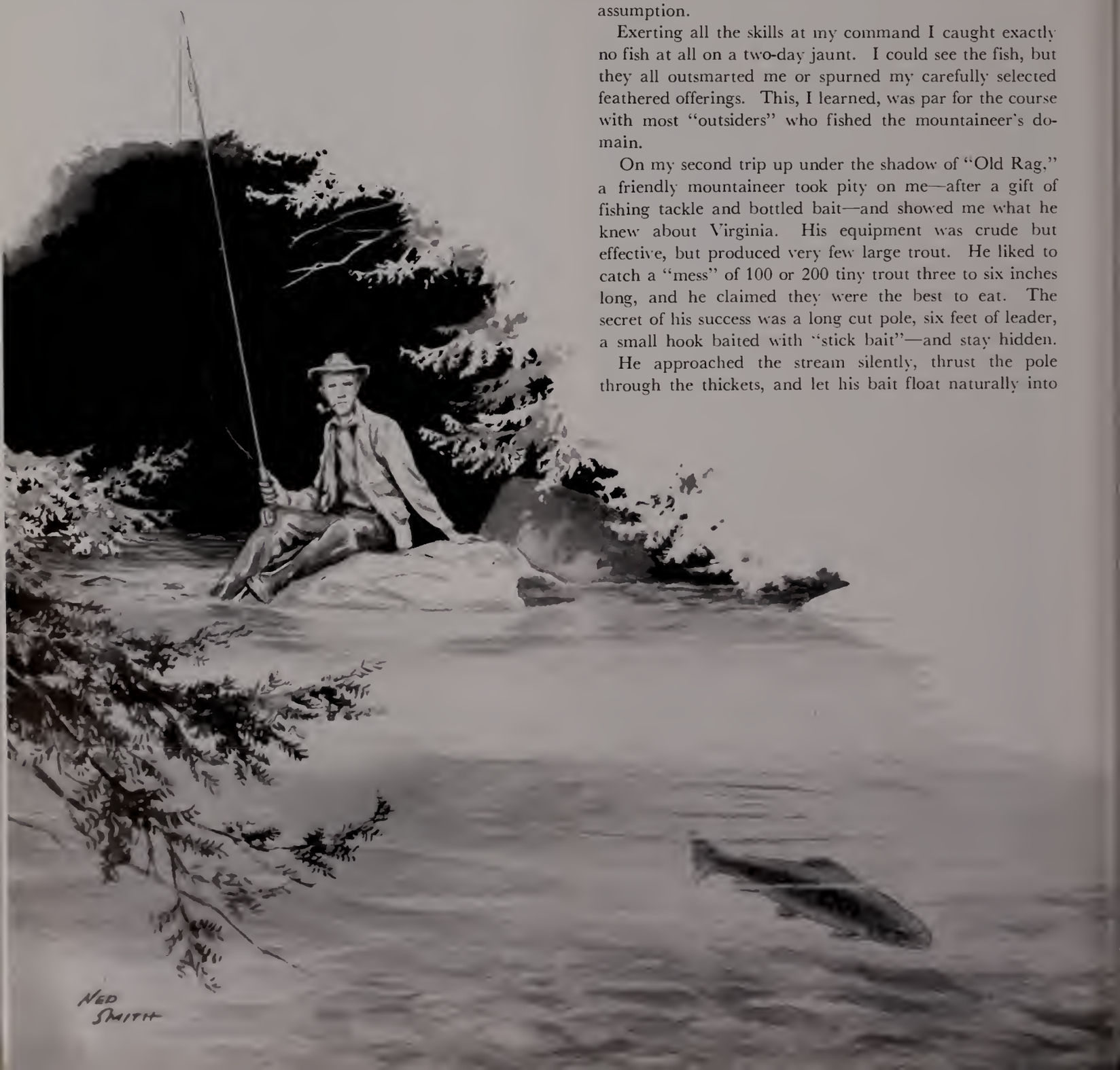
Back in 1925, when I first started writing a newspaper outdoor column, I was hardly a beginner in the sport of fly casting—at least that's what I thought because I had fished the Massachusetts' Berkshires for some six or seven years. However, my first trip up old Nicholson Hollow into "The Old Dominion" proved the error of my assumption.

Exerting all the skills at my command I caught exactly no fish at all on a two-day jaunt. I could see the fish, but they all outsmarted me or spurned my carefully selected feathered offerings. This, I learned, was par for the course with most "outsiders" who fished the mountaineer's domain.

On my second trip up under the shadow of "Old Rag," a friendly mountaineer took pity on me—after a gift of fishing tackle and bottled bait—and showed me what he knew about Virginia. His equipment was crude but effective, but produced very few large trout. He liked to catch a "mess" of 100 or 200 tiny trout three to six inches long, and he claimed they were the best to eat. The secret of his success was a long cut pole, six feet of leader, a small hook baited with "stick bait"—and stay hidden.

He approached the stream silently, thrust the pole through the thickets, and let his bait float naturally into

Lt. Col. Carpenter of Annapolis, Maryland, is outdoor columnist for the *Washington Daily News* and several other newspapers.



holes where he knew trout waited. When he got a bite, he "horsed" the fish out of the water in an arc through the air and usually spent some time hunting for his prize when it flopped off the hook. Somehow, this did not strike any sporting chords in my make-up.

I did not acquire his methods of angling, but I did take the page from his book on how to approach the water quietly, remain hidden, and fish only the places where native brookies "hang out."

My tutoring paid off in success. The score for the second weekend was one legal trout. As one weekend followed another, the score rose until I was catching a "limit" each day and the score was much higher in throwbacks too. Ever since, over the years, I have always taken a limit with dry flies there, regardless of the time of season or weather conditions because my teacher had grounded me well in trout lore.

In time the picture changed. Wardens appeared on the scene when the mountaineers were moved from the park area and their homes burned. Streams were stocked, moonshine stills disappeared, rugged roads became washed out, and the jungle growth of the hills overgrew the trails and paths I once knew so well.

The Elizabethan-speaking mountaineers who were moved out were resettled in new homes in the lowlands, where they saw their first automobiles, heard their first radios, saw their first moving pictures, and were exposed to all the wickedness of modern civilization. Many rebelled at being uprooted from their homes and had to be forced to go. The stocked trout rarely lasted a week because country boys from the nearby lowlands caught them all out before the season opened and even kept a tally score on an old split rail fence—to make sure they got them all "before the city slickers came to fish."

This encroachment of progress upon my favorite haunts forced me to hike farther into the headwaters of these streams. The public came and soon lost interest in the fishless stocked water that was readily accessible. They did not hike far up the trails to where the real fish lived . . . it meant at least 10 miles of climbing a day because no automobiles were permitted in the park.

Also, rattlesnakes were common far above the park line and copperheads frightened away the timid. This condition got worse rapidly because no mountaineers remained to control the snakes and, when the Skyline Drive was built, blasting drove many reptiles downhill along the streams. To speak quite frankly, the snakes became buddies of mine and I felt like patting each one on the head when I saw it; they helped keep the public from the waters I loved.

During the past 35 years I have fished about every trout stream in Virginia, West Virginia, and Maine, many of the streams in Pennsylvania, New York, Massachusetts, Vermont, New Hampshire, North Carolina, and Georgia, as well as the trout waters from Alaska south to Mexico on the west coast. But I still like to return to take the wonderful native brookies of the Blue Ridge. They can make a "monkey" of the average fly caster—and can make me work harder to catch them than any trout I know.

Time has changed the picture somewhat. Hill people still fish these streams using crude tackle with a "fly hook" attached to the line, to which they add the usual "stick bait" on the hook when the warden is looking. When he breathes warmly down their necks, the fishermen simply snap their lines quickly and the soft caddis worms fly off the hook. They seem to be fishing legally in park waters where "fly fishing only" is permitted.

I only fish upstream, and usually hike miles into the mountain before starting to fish. Rarely getting out of the water onto the bank where trout can see me, I bend over and sneak up to a hole. Only a beginner ever stands up to cast. Usually sitting on a rock in mid-stream with my feet in the cold running water, I smoke and wait for the pools to quiet down. Then I cast to where I know the fish are. It is a fact that when you catch a trout from a good feeding place another will take its place almost immediately.

I make each cast as nearly perfect as possible, avoiding unnecessary false casts, because native trout will rarely rise a second time unless you are hidden perfectly. Where possible, I like to keep my head and body below the level of the pool surface, where I will float a fly.

My choice of flies has changed little over the years. The best patterns for Virginia Blue Ridge native brookies are The Virginian, Carpenter's Varient, Royal Coachman Fanwing, Queen of the Water, Cahill, Red Ant, Black Gnat, Grizzly King, McGinty, Mellow May, and Brown Hackle. My hook sizes range down from No. 12 to No. 20 and I favor the smaller flies, particularly in low water. Mostly, I use leaders six or seven feet long, never longer. My rods are all two or two and a half ounces and six to seven feet long. It is almost impossible to fish longer rods on these streams.

Snakes are no problem . . . if you never put your hand, foot, or "tail" down anywhere without looking first. Several narrow escapes taught me this the hard way. I also learned never to notice a still working in the mountains; undue interest in such things usually meant a bullet between the shoulders from hidden watchers. The label of "revenoor" could spoil a lot of fishing.

I love to roll my sleeping bag onto a bed of pine needles and lie looking up through the trees at the stars . . . to build a small fireplace and skillet a mess of fat brook trout in fresh bacon drippings. No automobiles disturb my dreams . . . only the whip-poor-wills, the owls and the frogs produce the symphony of sleep.

When I fish, I must fish alone to have success unless a disciplined companion is willing to go along and share the fishing with me, in which case we both know that we must take turns fishing. The one whose turn it is always goes ahead and takes his position. He starts casting from the bottom or lower end of the chosen pool and works slowly up towards the head of the pool with careful casts, each designed to be near perfect. When the caster raises, hooks and lands a fish, he retires from his position ahead of the watcher; the other man takes his place and continues the methodical casting until the pool is finished and it is time to move to the next.

This rotation, to be fair, must continue from dawn to

(Continued on page 21)

Commission Photo by Kesteloo

Scenes such as this one in James City County near Jamestown gave Captain John Smith his first impression of Virginia. Later, he saw "mountaines, hils, plaines, valleyes, rivers and brookes all running most pleasantly into a faire Bay. . ."

Virginia's First Publicity Man

By EDDIE W. WILSON

HOW varied were the roles that the impetuous, indefatigable Captain John Smith played! He was not only adventurer, world traveler, soldier, small craft cruiser, big ship voyager, explorer, trader, colonial expansionist, pioneer, administrator, advocate of plantations, and narrator, but he was also Virginia's first publicity man. In other words, he was a one-man commission whose zealous objectives were to gather knowledge for the future good of his beloved Virginia colony and to sell the "faire countrie of Virginia" to his fellow countrymen in England.

In his written narrations, the phraseology of this versatile man is quaint and abounding in superlatives, yet on the other hand realism prevails throughout. His style is simple, direct, and convincing. There is a definite charm about his statements that the years cannot dim. Here is a refreshing element difficult to describe. At times his descriptions are as pleasingly colorful as a poet's, and it is apparent that he is a lover of beauty as well as a shrewd salesman.

The valiant Captain exulted in the topography of the Virginia region.

He saw "mountaines, hils, plaines, valleyes, rivers and brookes all running most pleasantly into a faire Bay compassed but for the mouth with fruitfull and delightsome land." The rivers of the mountains washed "from the rocks such glistering tinctures that the ground in some places seemeth as guilded where the rocks and the earth are so splendent to behold." The hills and valleys, "one prettily crossing an other" were "watered so conveniently with their sweete brookes and christall springs, as if art it selfe had devised them." The plaines were "all overgrowne with trees and weedes being a plaine wildernes as God first made it." There were five "delightfull navigable rivers." And "The vesture of the earth in most places doeth manifestly prove the nature of the soile to be lusty and very rich."

Moreover, "The Countrey is overgrowne with trees . . . the wood that is most common is Oke and Walnut: many of their Okes are so tall and straight that they will beare two foot and a halfe square of good timber for 20 yards long." Here were also elm, ash, mulberry, chestnut, and cherry trees. From wild grapes his party made "neere 20 gallons of wine, which was neere as good as your French Brittish wine."

This was a region of "good Oysters, Fish, Flesh, Wildfoule."

On the coast one day Smith and his men saw Indians roasting oysters in a fire but when they saw the strangers approaching "they fled away to the mountaines and left many of the Oysters in the fire. Wee opened some, and found in many of them Pearles. . . Wee ate some of the Oysters, which were very large and delicate in taste."

Among fish he lists the sturgeon, mullet, salmon, sole, herring, eel, catfish, and "Pearch of 3 sorts." At one time the party had more "Sturgeon, than could be devoured by Dog and Man, of which the industrious by drying and pounding mingled with Sorrell and other wholesome hearbes would make bread and good meate." While Smith observed that certain fish were more plentiful in certain seasons, he said that "In the small rivers all the yeare there is good plenty of small fish, so that with hookes those that would take paines had sufficient."

"Of beastes the chiefe are Deare, nothing differing from ours," and these are found "towards the heads of the rivers." The squirrels he compared in size to the "smallest

sort of wilde rabbits" of England, yet he was greatly impressed by the flying squirrels "because spreading their legs and so stretching the largenesse of their skins that they have bin seene to fly 30 or 40 yards." He marveled at the "Opassom which hath an head like a Swine, and a taile like a Rat, and is of the bignes of a Cat," and "Under her belly shee hath a bagge, wherein she lodgeth, carrieth, and sucketh her young. . . Their Beares are very little in comparison of those of Muscovia and Tartaria. . . The Beaver is as bigge as an ordinary water dogge, but his legges exceeding short. . . They have many Otters, which as the Beavers, they take with snares and esteeme the skinnes great ornaments. . . Their Foxes are like our silver haired conies, of a small proportion. . . Martins, Powlecats, weessels and Minkes we know they have because we have seen many of their skinnes, though very seldome any of them alive."

According to Smith there was a "great plenty" of geese, duck and pigeons, and he records that "an hundred fortie eight foules" were killed by two of his party "at three shoots." Also, the "Partridges are little bigger than our Quailes, wilde Turkeies as bigge as our tame," whereas the Indians ate turkey eggs.

Finally, in addition to these and many other worthwhile features the climate of Virginia is conducive to good health:

"The temperature of this countrie doth agree well with English constitutions being seasoned to the country which appeared by this, that though by many occasions our people fell sicke, yet did they recover by very small meanes and continued in health. . . The heat of somer is in June, Julie, and August, but commonly the coole Breeses asswage the vehemencie of the heat. . . The colde is extreame sharpe, but here the proverbe is true that *no extreame* long continueth."

In such manner did Virginia's first publicity man ask his readers "to consider, conceave, and apprehend Virginia."

V.S.C.C. Photo

John Smith was a one-man publicity committee determined to sell the "faire counties of Virginia" to his fellow Englishmen.

BLUE RIDGE FEVER (Continued from page 19)

dusk. I like the hour before sunrise and the hour after sunset best of all . . . that is when the largest trout always hit. The rest of the day you can give to beginners and those afraid of hiking down the steep, dangerous trails after dark. During the heat of the day I find a soft spot to take a nap. I hate people who obviously never fished for trout and make silly rules such as "no fishing after sundown." If not then, what is the best hour of the day? There just is no other time for dry fly fishing. I believe such rules are made for the sole benefit of worm dunkers and other bait fishermen.

This does not imply that I never used a worm in my life, because I did before I found out that a good dry fly caster can catch at least ten times as many trout a day as the best wormer that ever lived. So why fish in the "Bush League"? Besides, I rarely kill an unwanted fish.

Now a word about releasing trout. *Never touch the body of the trout.* Grasp it firmly by the lower jaw only. Remove the hook gently and place—do not drop—the fish into the stream. If you do this, *not one single fish so released will die.* You can always tell an amateur when you see him grab a trout, tight in the middle—like a beer can. Then the big-hearted chap drops the fish into shallow water where it lands on its nose and, of course, will soon die.

Why will the trout die? Well, first the removal of any slime from the trout's soft body by touching produces exactly the same effect as removing a large section of skin from a human; fungus and other diseases will attack, take hold, and soon kill. By grasping or gripping the slippery fish, the hand will break or damage the swimming bladder which delicately maintains the fish's balance. Lastly, when you drop the fish on its nose you have broken its spinal cord and a white spot will appear on the neck. Within a day or two the fish will be dead.

Naturally, I don't recommend this method of release for barracuda, pike, bluefish or other sharp-toothed fish. You may find tooth-marks on your thumb and forefinger after handling trout—and sometimes a drop of blood will ooze. So what? It is a small price to pay for all the fun you had and, in a long lifetime, I have never suffered from the effects of trout teeth.

What I do suffer most from is that annual fever that can be soothed only by the bubbling waters of a mountain stream, the sights of dogwood and redbud in bloom, violets and star flowers along the woodland paths, the fragrant smell of ferns lining my creel, and the pleasure of awaiting the wily native brook trout which I hope to fool, fair and square, with a legal lure.

When all this is gone, what else will there be left to live for?

Sassafras Tea Time

By BILL COCHRAN
Roanoke, Virginia

ROMPING through the springtime woods and fields is a pleasure within itself, but when one has the distinct purpose of digging a sassafras root for some tea, the pleasure is even more pronounced. This was exactly what I intended to do one spring day. Earlier when I secured tramping permission from a landowner, he thought it quite novel that I wanted a root for tea. Then he began reminiscing.

"You know," he said. "I used to drink the stuff, but I haven't had any since I was a kid."

I realized that he certainly wasn't by himself. To many people, sassafras tea is but a memory. Time was, however, when spring wasn't spring without it. The aromatic beverage was just the thing to flush away winter's ills and to bring on rosy cheeks of spring. However, only a handful of the populus nowadays takes the time to dig a spring sassafras root, brew a pot of tea, and enjoy one of nature's delicacies.

Before leaving the landowner, I had promised, upon his request, to bring him back a root along with mine.

I had little trouble finding a sassafras to pull. The small, shrub-like trees grew everywhere. I found mine along a creek bank. Fact is, the sassafras is often thought of as a tree of the fence rows, roadsides, and creek banks, but sometimes a giant (80 feet or more in height) sassafras will be found growing in the deep woods, or a smaller brother will be discovered growing at an altitude of 4,000 feet on an Appalachian peak.

I had no digging implement with me, so I gripped the small sassafras at the base of its trunk and gave a firm pull. I watched and smelled the freshness of the soil as it erupted about the root and slowly lost its grip on the tree. In the end the earth gave it away with a suddenness that sent me stumbling backwards.

Once the root was mine I vigorously shook the dirt from it, pressed it to my nose, and sucked in the unmistakable aroma. It was in this same aroma that the American Indian placed his faith to ward off evil and illness. According to our historical records, it was the Indian who first introduced the pleasant-smelling tree to the white man. Apparently the early frontiersman was quick to believe that the Indian miracle plant had great medicinal value. Without any scientific basis, he took it as the answer to life's ills. However, we should not be too critical. It was doubtlessly easy to believe that a life-prolonging cure-all could be found in the great new world.

With the early settlement of America, the fame of sassafras—the cure-all—grew and spread rapidly. Large consignments of the roots were shipped to England. Consequently the pioneer farmer found to his delight a two-fold purpose in grubbing sassafras. He could harvest a paying crop of roots while in the act of clearing brush from his land. In time, however, sassafras diggers and shippers were to suffer their fate. Their product had failed to cure many of the ailments it was claimed to cure.

Photo by Cochran

Sassafras tea, once used by Indians to ward off evil, is still regarded as a fine spring tonic. It is made from roots like that shown.

Even though great faith in sassafras as a cure-all was lost, it continued to serve as a medicament in rural areas of America up to recent times. In fact, some old-timers even yet speak of the "good old days" of their youth when sassafras, along with a concoction of foul-tasting ingredients, was served as a spring tonic.

Fortunately, moderns learned to enjoy sassafras for what it is. By simply boiling the bark of its roots much the same way tea leaves are boiled, they found that a pleasant-tasting and very unusual beverage is produced.

As I examined my freshly dug root, I could recall my introduction to sassafras as something to be enjoyed the same as wild strawberries or meadow mushrooms. When I was quite young and my Dad was a forester, he used to bring me things to examine from the outdoors. Terrapins, fossils, deserted bird's nests, beaver-gnawed stocks, Indian arrow heads, and the like were often laid before me. I could vividly recall the day he brought home sassafras roots. I remembered watching with interest as he washed and cut them to size, then boiled them in water. A steaming blood-orange liquid was poured into my cup, and a new aroma filled the room. Cautiously I sipped the strange brew. I didn't like it.

"Drink it. It's good," Dad said. I did.

Like olives and coffee, I found that it was something I had to learn to like, and in time I did and to the point that spring means sassafras tea just as well as it means warmer weather.

I pulled a second root with the assurance I wasn't destorying the natural setting. The sassafras is a prolific grower. In some areas it grows to the point of being a nuisance, although it is difficult for a nature lover to say this. It is a handsome tree. Its stout branches spread from their trunk at a right angle much like a giant man flexing his great arm muscles. The mature bark of an old tree is thick, rough, and grayish-brown in color while young branches and young trees are yellowish-green in

color. The young branches keep this lustrous alive appearance even during the winter months when other hardwoods are drab and dead in appearance.

Most unusual is the foliage. Unequaled, except perhaps to a degree by the wild mulberry tree, are its leaves. These large, handsome structures grow in three distinct shapes: simple blunt-tipped ovals, mitten-shaped, and three-lobed.

I could recall how thrilled I was when I first discovered the many different shaped leaves all growing on the same tree. I could also recall how two buddies and I would walk along a winding rural road hunting pairs of "mittens" on sassafras trees. In the fall, yellow, orange, and even pink ones could be found and within easy reach.

Looked at from any angle, the sassafras is a unique tree. Its wood, for instance, is soft, brittle, and coarse grained, but it is decay resistant, durable, and is claimed to have less drying shrinkage than any other hardwood. Pioneer farmers favored it for making fence posts and rails, and because of its aromatic nature, it gained several unusual uses in more innocent days. It was reputed to be pest resistant; hence in southern rural areas it was often used in the making of bedsteads and cabin floors, and in chicken houses it was employed as roosts in order to rid chickens of lice. And no one could expect good homemade soap without stirring it with a sassafras stick.

Modern use of the sassafras tree is limited. The oil of sassafras is occasionally employed as a perfume or flavoring, and in certain localities sassafras leaves are used in the production of gumbo soup. Let it be said, however, that sassafras is at its best when it is tea, and I well knew this as I carried enough roots back home for a dozen steaming hot pots.

Bird of the Month:

Barn Owl

BY a springhouse on a country road in Rockbridge County there stood some years ago a hollow oak. When a traveler at night in late spring chanced to stop for a moment under this ancient tree, he would hear from overhead a strange hissing noise. If it were a moonlight night, he might glimpse a weird whitish shape gliding silently into the big hole. For many years, until a winter storm at last wrecked the ancient tree, this was the home of a family of barn owls.

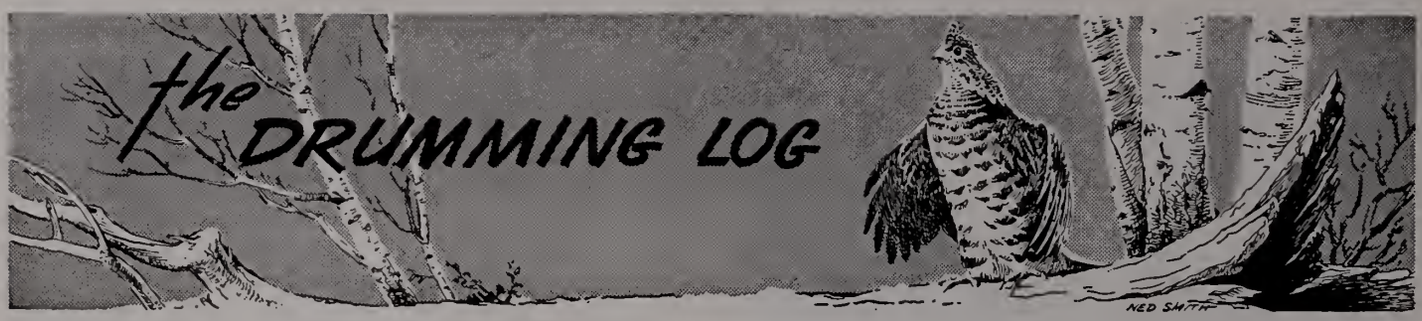
This is the bird that from the strange appearance of its facial disks is popularly known as the monkey-faced owl. These shallow depressions around the mouth and eyes of the bird, very pale in color, set off the dark eyes and give the bird a somewhat fearsome appearance, enhancing the superstitious attitude that many people have toward it. The upper parts of the bird are touched with various shades of tan, tawny, and yellowish, while the underparts are so light that when it flies across the headlights of a car it seems almost white. With its wingspread of around 45 inches and its light appearance, the bird gives a ghostly effect at night. When held in the hand, its plumage is indescribably beautiful. The amazing range of unusual colors, its spots and bands and vermiculations, make it one of the loveliest of birds.

The name, barn owl, comes from its preference for untenanted buildings for nesting. In dark corners under the roof of a barn, in the attic of a deserted building, in the bell tower of a church, even at times on the Virginia coast in a duck blind—it will nest anywhere it can find shelter and darkness. The barn owl is strictly a nocturnal hunter, rarely seen in daytime unless one happens to find its roosting place. Inquisitive and quarrelsome blue jays often used to call my attention to one roosting in one of the two large spruces in the manse yard where I formerly lived.

In such an attic or hollow the barn owl deposits its five or six or more white eggs, wanting no nest beyond a safe flat spot. For some three weeks the female will incubate these eggs, finally bringing forth what at first look like fluffy balls of cotton down. From that moment she and her spouse are frantically seeking food for these young through the night hours.

The number of mice and rats that are the nightly demand of a growing family of half a dozen barn owls is hard to overestimate. Someone has figured that a pair of these birds are worth 50 dollars a year to a farmer through their destruction of rodent pests. The barn owl has been called an animated mouse trap. Its food consists almost entirely of these harmful rodents. It rarely takes a small bird; one can almost say flatly that it never disturbs poultry or game birds. It is so truly one of the sportsman's best friends that a man who wilfully kills one is either ignorant or vicious.

—Dr. J. J. Murray



"Bob" Hilliard, Walton League National Director, Dies

C. Robert Hilliard, 47, of Arlington, a leader among Virginia conservationists, died at Arlington Hospital, January 16 after a long illness.

A national director of the Izaak Walton League of America at the time of his death, he had been president of the Virginia State Division of the League in 1959 and president of the Arlington-Fairfax Chapter in 1956 and 1957. He served yearly as a judge of the state wildlife essay contest sponsored jointly by the Virginia Commission of Game and Inland Fisheries and the Virginia Division of the Izaak Walton League.

Mr. Hilliard was a member of the Fairfax Rod and Gun Club, the National Wilderness Society and the Rapidan Hunt Club as well as the National Skeet Association. In many regional and national skeet events, he was a consistent trophy winner.

Born in Ilion, N. Y. on November 14, 1912, Mr. Hilliard came to the Arlington area in 1944, where he was engaged in the real estate business, part of the time as an independent builder.

He is survived by his wife, Mrs. Gertrude Haran Hilliard; two daughters, Mrs. Phillip Peterson of Durham, N. C. and Karen Hilliard of Arlington, and a grandson, Christopher Peterson of Durham. Funeral services were held January 18 at the Arlington Funeral Home.

The unique two-panel water conservation stamp to be issued in Washington on April 18 portrays a closeup view of a drop of water falling from a leaf, which symbolizes watershed influences upon water supply. This design leads the eye to a right-hand panel depicting an actual watershed panorama.

Callison Accepts Post with Audubon Society

Charles H. Callison resigned March 1 as conservation director and secretary of the National Wildlife Federation to accept the position of assistant to the president of the National Audubon Society in New York City. The announcement was issued jointly by Claude D. Kelley, president of the National Wildlife Federation, and Carl W. Buchheister, president of the National Audubon Society.

Callison, 46, joined the National Wildlife Federation in 1951 as assistant conservation director after having served as executive secretary of the Conservation Federation of Missouri.

"Let me know when it's my turn to watch where we're going."

Eastern Open at Pickett Climaxes 1959 Field Trial Season

The Eastern Open Shooting Dog Classic, held at Camp Pickett, near Blackstone, Virginia, on November 12-14, 1959, proved a fitting climax to the 1959 field trial season in Virginia. With a $1,000 cash purse and oil portraits of the winners as prizes, a record entry of 40 of the top shooting dogs on the Eastern Seaboard was attracted. Running in one hour braces, the stake lasted for three days.

Deep Run Rock, two-year-old male pointer, made his bid in the 13th brace on Friday the 13th. Rock is owned by Steve Richardson of Richmond, Virginia, and was trained and handled in the stake by Oakey Kite, professional handler of Halifax, N. C. Sam The Man, winner of last year's inaugural running of the feature stake, ran birdless in his initial heat but was called back in a second series as the result of an outstanding race. Sam pointed a bevy and handled it flawlessly in his second appearance. Sam is owned by George Harrison of Richmond, Virginia, and was handled by Hunter Grove, professional handler from Halifax, N. C.

The Classic was run on the Twin Lakes area of Camp Pickett where the game restoration program of the Commission and the Department of Army has provided an ample supply of quail. Although the area is open for hunting during the regular season, the quail population had increased considerably over the 1958 crop. As many as six coveys of quail were moved in an hour brace.

The purpose of the Classic is to lay the groundwork for a championship stake. One of the requirements for recognition by the American Field consists of conducting the stake for three

Photo by Steve Richardson, Jr.

Shown are the winners of the Eastern Open Shooting Dog Classic held at Camp Pickett in November.

years in a satisfactory manner. The 1960 running of the Classic, scheduled for November 10, 1960, will complete the probationary period, and it is expected that in 1961 the first regularly established bird dog championship in Virginia will become a reality.

The Association of Virginia Field Clubs is composed of the following member clubs. The name and address of the club secretary is listed for the benefit of sportsmen interested in obtaining more detailed information regarding their local club.

Mathews Rod and Gun Club, R. L. Lucas, Syringa, Va.
Merck Rod and Gun Club, C. L. Marshall, Rt. 2, Elkton, Va.
Monticello Pointer & Setter Club, L. S. Harry, Bellair, 10 Orchard Road, Charlottesville, Va.
Northern Neck Field Trial Association, W. V. Sanders, Warsaw, Va.
Northern Virginia Field Trial Club, Verle Farrow, 102 Byrd Dr., Fairfax, Va.
Old Dominion Bird Dog Association, J. R. Lewis, 418 E. 18th St., Norfolk 13, Va.
Shenandoah Valley Gun Dog Club, Lyle Henkel, 1813 Mount Vernon St., Waynesboro, Va.
Tidewater-West Point Field Trial Club, Tom Smith, 616 Back River Road, Hampton, Va.
Virginia Amateur Field Trial Association, Parke C. Brinkley, Box 301, Richmond 2, Va.
Virginia Capitol Field Trial Association, W. S. Richardson, 927 Myers St., Richmond, Va.
Bluestone Bird Dog Club, J. M. Marshall, 706 Highland Ave., Princeton, W. Va.

Northeast Information-Education Association Formed

At the annual conference of the Northeast Section of the Wildlife Society held recently in Providence, Rhode Island, a Northeastern Association for Conservation Information and Education was officially organized.

State representatives present at the meeting elected Jules Marron, Supervisor of Public Information for the New Jersey Department of Conservation and Economic Development, as their first president. As vice-president they elected Bryant R. Chaplin, Chief of Information and Education for the Massachusetts Division of Fish and Game, and as secretary they selected Carll Fenderson, Director of Information and Education for the Maine Department of Inland Fisheries and Game.

The elected officers were charged with preparing a proposed Constitution and By-Laws which will be studied by members of the Information-Education Divisions of their respective states preparatory to adoption by the Association.

Forest Fire Total Jumps to 105,000

The weather didn't cooperate with Smokey Bear this past year and forest fires went above the 100,000 mark for the first time since 1956, the U. S. Department of Agriculture has announced.

A total of 105,191 forest fires were reported in 1959—7,281 more than were reported in 1958. The acreage burned totaled 4,021,782 acres in 1959 as compared to 3,098,618 in 1958.

Although lightning caused many of the large fires, man-caused fires increased in number. Most man-caused fires were started by debris burners, smokers, incediarists, campers, and railroads.

Warden B. U. Miller reports that this 100-pound partial albino button buck was rescued by members of the Deltaville Hunt Club in Middlesex County last season and kept in a stable for a few days before being released. It was said to have looked very much like a goat.

Special Drive For Duck Stamp Sales

A nationwide campaign to promote the after season sale of the 1959-60 duck stamps to conservation minded persons has been "kicked off" by Under Secretary of the Interior Elmer F. Bennett. The purpose of the special drive is to offset the loss of revenue from the regular sales—down an estimated 25 percent—which finance the Fish and Wildlife Service acquisition of wetlands for waterfowl refuges.

Each purchaser of a stamp during the campaign will receive a certificate signed by Secretary Seaton. The certificates are provided at no cost to the Government through the courtesy of the National Wildlife Federation.

Stamps and certificates are available from the Bureau of Sport Fisheries and Wildlife, Fish and Wildlife Service, Washington 25, D. C. Interested persons are urged to send their check or money order direct to that Bureau for their stamp and certificate.

Winter Duck Counts in West Show Decreases

The first report of the results of the winter waterfowl survey, released by the Portland Regional Office of the Bureau of Sport Fisheries and Wildlife, showed that the duck population of the Pacific Flyway was 18 percent below last year's total. Pacific Flyway data also showed that goose populations were down four percent; swans were off 10 percent and coots were down 17 percent. An encouraging increase was noted in black brant which were 53 percent more plentiful than last year.

The winter waterfowl survey for the Central Flyway showed a decrease of 42 percent from last year, according to reports from the Albuquerque, N. Mex., office of the Fish and Wildlife Service, Department of the Interior.

The big drop in the Central Flyway was in the wintering duck population. This category was down 47 percent. Goose population was up 17 percent in spite of a 20 percent drop in Canada geese. The increase in the numbers of blue and snow geese wintering in Texas more than counteracted the loss in Canada. Coot population showed a decline of 27 percent.

The wintering populations of canvasbacks, redheads, and ruddy ducks, the three species which have been put into a precarious position by the prolonged drought in the nesting areas, showed a 70 percent decline in the winter survey.

Shannon New California Director

The California Department of Fish and Game has a new director, Walter T. Shannon, as the result of a recent shuffle of administrative positions by Gov. Edmund (Pat) Brown.

Shannon, 52, had served as deputy director for seven years. A native Californian, he has served in the Fish and Game agency since 1936 except for time out for military service during World War II.

Swift To Address VSO

Ernest F. Swift, National Wildlife Federation conservation advisor, will be guest speaker at the annual meeting of the Virginia Society of Ornithology at Bridgewater College April 29-30. Reservations should be made through H. G. M. Jopson, Bridgewater College, Bridgewater, Virginia.

Husband of Commission Assistant Executive Director Passes

Herbert E. Rueger, 62, husband of Commission Assistant Executive Director Evelyn P. Rueger and formerly one of the owners of the old Hotel Rueger, died February 24 at a Richmond hospital.

He is survived by his wife, a brother, William Rueger, Jr. of Richmond, and a sister, Mrs. L. N. Mills of Statesville, N. C.

Graveside funeral services were held February 26 at Hollywood Cemetery in Richmond, with many Commission personnel in attendance.

Few Ducks on Back Bay Last Day of Season

On the last day of the 1959-60 waterfowl seasons in Virginia and North Carolina (January 8), some 116,448 waterfowl of all kinds were observed on Back Bay and Currituck Sound, aerial inventory figures released by the Virginia game commission reveal.

Only 13,647 of these were ducks, however, and only 2,910 of the ducks—mostly blacks and pintails—were on Virginia's Back Bay.

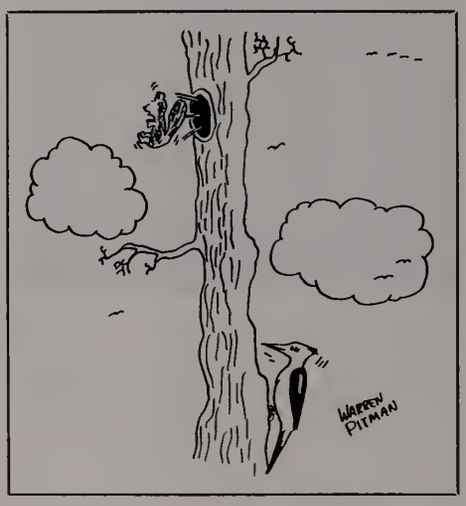
The total also included 20,787 coot, 26,225 Canada geese, 41,500 snow geese, and 14,289 swan. Of these, 4,810 Canada geese, 14,300 snow geese, and 5,100 swan were seen in Virginia.

Hunter activity on the last day of the season was high, as indicated by the 93 decoyed blinds and 58 boats observed to be present on the interstate area.

Game Wardens Apprehend 442 Violators in January

Some 442 persons arrested by Virginia game wardens were convicted of game and fish law violations during the month of January. The 425 convicted for violating game laws and the 17 convicted for breaking fish laws were assessed $7,599 in fines, which goes into the state literary fund, and $2,505.85 in court costs. Eight of the game law convictions were for spotlighting deer, the fine for which is $250.

The state's game warden force travelled 313,097 miles and inspected 23,264 hunting and fishing licenses during the month.



Fox Trapping for Rabies Control Underway

To prevent the spread of rabies and reduce predator pressure on small game birds and animals, seven Virginia counties are conducting special fox trapping programs this spring.

The state health department has granted the game commission permission to issue blanket fox trapping permits to the boards of supervisors of Buckingham, Cumberland, Prince Edward, Rockingham, Spotsylvania, Stafford and Washington counties. Once permission is granted, professional trappers whose salaries are paid in part by the game commission and in part by the federal Fish and Wildlife Service instruct interested local trappers in fox trapping procedures. Traps are to be visited at least once every 24 hours so that animals other than foxes can be released without injury.

Dates of the special trapping programs are: in Washington County, January 16-April 15; in Buckingham, Prince Edward, and Rockingham counties, February 1-May 1; in Spotsylvania and Stafford counties, February 1-May 31; and in Cumberland County, February 15-May 15. Dog owners in these counties are urged to keep their dogs under control during the trapping periods.

National Science Foundation Supports Teacher Training at Fisheries Lab

The National Science Foundation has granted the sum of $21,525 to the Virginia Fisheries Laboratory, Gloucester Point, for the support of a summer Research Participation for Teacher Training Program under the direction of Robert S. Bailey, Associate Biologist.

In carrying out this program with the National Science Foundation, the Department of Marine Science of the Laboratory and The College of William and Mary help teachers fulfill their role in high quality education in the biological sciences.

The aims of the program are to acquaint the participants with a wide variety of marine plants and animals through a series of field trips, lectures, and studies. Ocean, bay and river organisms will be observed in their native habitats and much attention will be given to the environment of marine animals. Teachers will also become acquainted with problems of marine research.

Last summer twelve biology teachers from eight states participated in this program. Both high school and college biology teachers are encouraged to make application for stipends which pay $75 per week plus an additional $15 for each dependent. Application should be made to Robert S. Bailey, Director National Science Foundation Program, Virginia Fisheries Laboratory, Gloucester Point, Va.

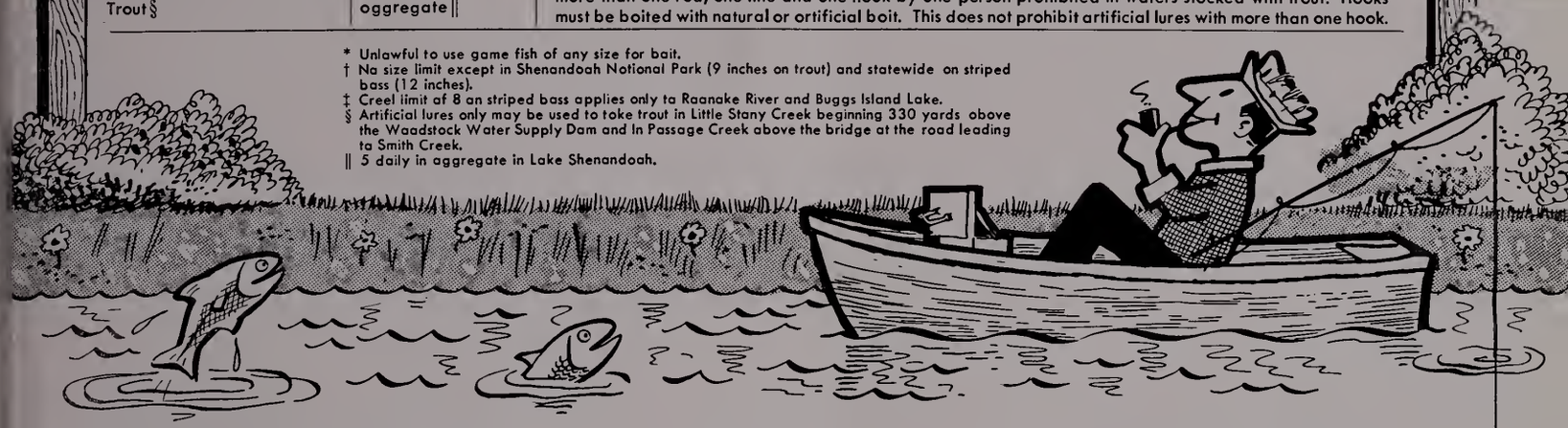
VIRGINIA FISHING LAWS · 1960

OPEN SEASONS AND CREEL LIMITS

Woters stocked with trout moy be fished only between 12:00 noon April 16 and December 31, from one hour before sunrise (ofter opening doy) to one hour after sunset doily.

GAME SPECIES*	CREEL LIMIT†	CONTINUOUS OPEN SEASON	JUNE 20-APRIL 30 OPEN SEASON
Largemouth, Smallmouth, Spotted, Striped Bass‡	8 doily in aggregate	In oll public impounded woters statewide; in all waters east of Blue Ridge Mountains; ond west of the Blue Ridge Mountains only in the James River, the New River and thqt section of the Little River from Radford City Dam to the New River.	In all woters west of Blue Ridge Mountains (exceptions at left).
Walleye (Pikeperch), Pickerel (Jockfish)	8 doily in aggregote		
Rock Boss (Redeye)	15 doily	Same os obove plus these counties west of the Blue Ridge: Alleghony, Augusto, Both, Botetourt, Clarke, Frederick, Highlond, Page, Rockbridge, Rockinghom, Shenandooh ond Worren.	In all waters west of Blue Ridge Mountoins (exceptions at left).
Croppie (Silver Perch), Bluegill (Bream), Sunfish	25 doily in oggregote	stotewide	
White Bass	25 daily		
Brook, Rainbow and Brown Trout§	8 daily in oggregate‖	Open season: noon April 16-December 31. Seines ònd nets, feeding of trout and fishing for trout with more than one rod, one line and one hook by one person prohibited in waters stocked with trout. Hooks must be boited with natural or ortificial boit. This does not prohibit artificial lures with more than one hook.	

* Unlawful to use game fish of any size for bait.
† No size limit except in Shenandoah Notional Park (9 inches on trout) and statewide on striped bass (12 inches).
‡ Creel limit of 8 an striped bass applies only to Raanake River and Buggs Island Lake.
§ Artificial lures only may be used to toke trout in Little Stony Creek beginning 330 yards obove the Waadstock Water Supply Dam and In Passage Creek above the bridge at the road leading to Smith Creek.
‖ 5 daily in aggregate in Lake Shenandoah.



A fishing license is required to take any freshwater fish.

Only persons not required to have a license ore: (1) residents under 16 years of age; (2) landowners, their spouse and children, and tenants who reside on the property and have the written permission of the owner, on the landowner's property only; and (3) those persons fishing as guests in private ponds individually owned. Members of the U. S. Armed Forces stationed in Virginia and students attending bona fide schools in Virginia may purchose, upon proof of status, resident fishing licenses from the clerk of the county in which they ore stotioned or located.

LICENSE FEES AS OF JULY 1960

(Obtain licenses from clerks of the Circuit Caurts af the caunties ar the Corparatian Caurts af the cities and ather authorized agents.)

County resident to hunt and fish.....	$ 2.00
State resident to fish only.....	3.50
Non-resident to fish only.....	10.00
City resident to fish in woters within limits of city of residence.....	2.00
Non-resident interstate (North Corolina and Virginio) 3 consecutive doys, to fish in Kerr Reservoir.....	1.00
Non-resident ond resident, 3 consecutive doys to fish in public and private impounded woters statewide and in oll public waters not stocked with trout...	1.50
State and county resident, to fish for trout in streams stocked with trout, in oddition to regular fishing license.....	1.00
Non-resident, to fish for trout in streoms stocked with trout, in addition to regular fishing license.....	5.00
Notionol Forest Stamp, required in addition to license, to hunt, fish or trop on national forests.....	1.00
Resident or non-resident, 3 consecutive days to fish for trout in Shenandoah Notional Pork.....	3.00

REMEMBER:

No species of fish taken in inland woters **may be sald** except under special permits.

Baltimare minnows (goldfish) **may not be used for bait** in public impoundments.

Trot lines or set pales may be used statewide, using bait except minnaws (deod or olive), **for the purpose of taking nan-game fish and turtles** except in waters stocked with trout and in the Shenandoah River and its tributaries.

Carp and gar may be taken with baw and arrow in all public waters except those stocked with trout, from April 1 through September 30 during daylight hours. Crossbows and poisoned orrows are prohibited.

Sunday fishing is prohibited in the counties of Alleghany, Bath, Bland, Botetourt (except Jomes River and Carvins Cove), Craig, Giles (except Mountain Lake and New River), Highland, Rockbridge, Surry (in Blackwoter River ond Cypress Swomp) and in Silver Loke in Rockinghom. Sundoy fishing in Augusta County requires the written permission of londowner.

NATIONAL FORESTS

State laws and regulations apply.

Big Levels Area—Coles Run closed to fishing. St. Mary's River, Back Creek and Sherando Loke conform with generol stote laws except thot **Sherando Lake** is open from Memorial Doy through Labor Doy only between the hours of 8:00 a.m. ond 8:00 p.m. outside the swimming areas. All other waters will be closed June 30.

SHENANDOAH NATIONAL PARK

Open to trout fishing only 12 Noon April 16 to one hour after sunset October 15 and from one hour before sunrise to one hour ofter sunset on intervening days. Natural bait is prohibited. Fishing only with artificial flies or bugs and lures with single hook.

BLUE RIDGE PARKWAY

Conforms to State regulations except hours shall be from sunrise to sunset, and ortificicl bait only moy be used.

JOHN H. KERR RESERVOIR

Continuous Open Seasan

State resident and non-resident fishing licenses legally obtained from the Virginia Commission of Game and Inland Fisheries or the North Carolina Wildlife Resources Commission, or the duly authorized representotive of either, shall be accepted as legal authority to fish only by meons of rod ond reel, hook and line, and by casting in the waters of John H. Kerr Reservoir (Buggs Island Lake) lying east of U. S. route 15 highway bridge near Clarksville, Virginia to the reservoir dom, including all tributary waters lying in Virginia which are accessible by boat from the main body of the reservoir, or from subimpoundments lying east of the said highway bridge. Other fishing licenses, permits or privileges of either state will not be reciprocolly honored in this area.

CLAYTOR LAKE

Locoted in Pulaski County. Boots ovailable. Continuous open seoson.

BACK BAY AND ITS TRIBUTARIES

Use of oir propelled boats for the purpose of hunting ond fishing prohibited.

STATE PARK AND FOREST LAKES

Seasons, creel limits and size limits same as general State law for fishing. (Subject to closure by Department of Conservation ond Economic Development.)

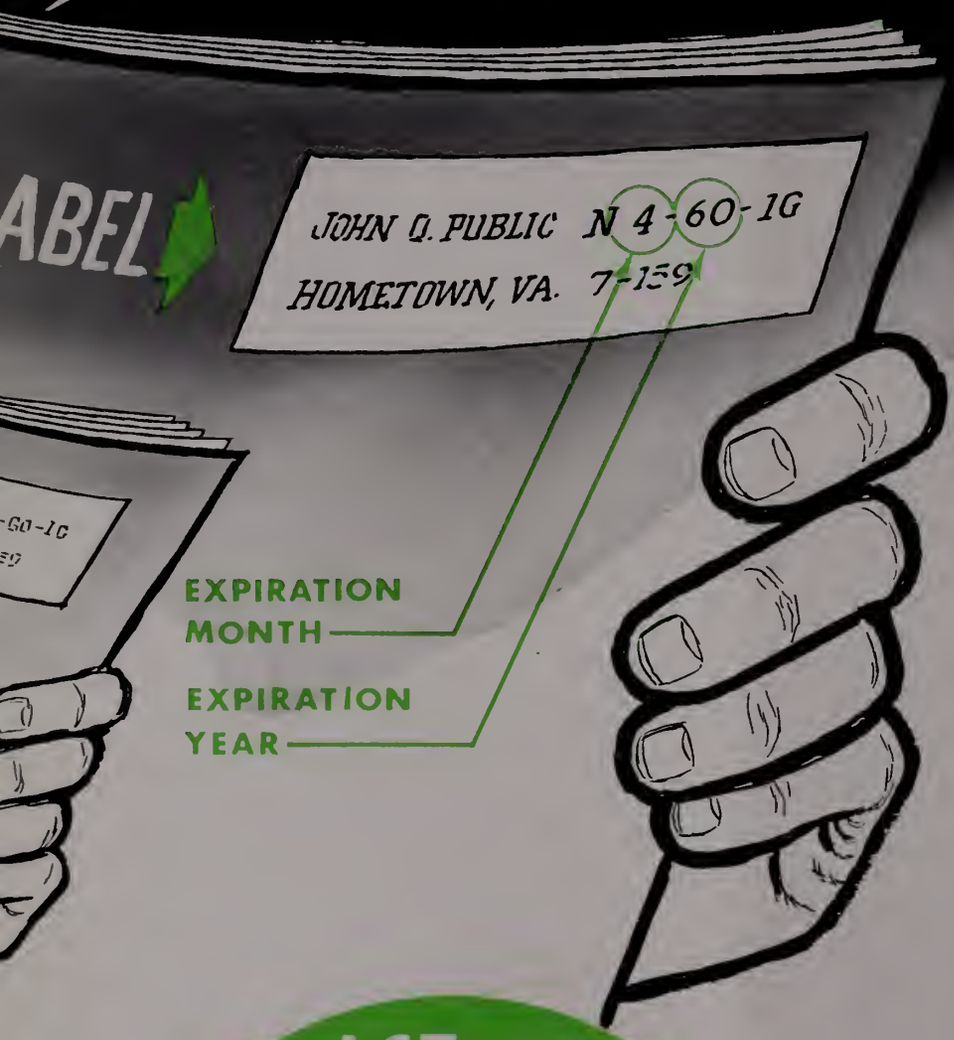
COMMISSION CONTROLLED PONDS

Boats with motors, except electric motors, prohibited.

Creel and size limits: some os State regulations.

Open seasons same as general law, except fishing shall be one hour before sunrise to one hour ofter sunset only.

Check YOUR LABEL



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Renew before July 1st, as far in advance as you wish, *at OLD RATES . . .*

Regular		Special*	
1 Year	$1.00	1 Year	$ .75
2 Year	1.50	2 Year	1.25
3 Year	2.00	3 Year	1.75

New Rates effective JULY 1st

Regular		Special*	
1 Year	$1.50	1 Year	$1.25
2 Year	None **	2 Year	None **
3 Year	3.50	3 Year	3.00

Bulk orders of 10 or more subscriptions from one donor:

$1.00 per 1 year subscription

* Special rates are offered to clubs, agents, at Christmas and at exhibits.

** The 2 year rate will be discontinued because the present number of two year subscriptions received makes up a very small percentage of returns.